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# Rethinking the Maritime Strategy for the 1990s in terms of European security

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## THESIS

RETHINKING THE MARITIME STRATEGY FOR THE  
1990s IN TERMS OF EUROPEAN SECURITY

by

Wesley W. Lyon

March, 1990

Thesis Advisor:

Jan Breemer

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Thirdly, the START and CFE agreements, combined with improving Soviet submarine technology, will make the likelihood of a Soviet SLOC interdiction campaign much greater in the event of future conflict; the U.S. should adopt a layered defense strategy in response to these developments. Fourth and finally, because of the political difficulties associated with ground-based intermediate-range nuclear forces, the U.S. Navy must be assuming a larger role in providing theater nuclear deterrence in Europe.

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Rethinking the Maritime Strategy for the 1990s  
In Terms of European Security

by

Wesley W. Lyon  
Lieutenant, United States Navy  
B.S., United States Naval Academy, 1983

Submitted in partial fulfillment  
of the requirements for the degree of

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March 1990

Author:

Wesley W. Lyon

Approved by:

Jan Breemer, Thesis Advisor

Richard Brown, Second Reader

Thomas Bruneau

Chairman, Department of National Security Affairs

## ABSTRACT

This work reexamines the warfighting component of the Maritime Strategy in light of recent political changes in the communist world as well as recent arms control advances. The following conclusions are reached: first, a Conventional Forces Europe (CFE) agreement and the political changes in Eastern Europe will make mobilization and reinforcement key factors in any future European conflict. Secondly, under the conditions of a START agreement, it will no longer be necessary for the Soviet Union to form protected bastions to guard its SSBNs; seeking out and attacking Soviet SSBNs could be more risky and destabilizing. Thirdly, the START and CFE agreements, combined with improving Soviet submarine technology, will make the likelihood of a Soviet SLOC interdiction campaign much greater in the event of future conflict; the U.S. should adopt a layered defense strategy in response to these developments. Fourth and finally, because of the political difficulties associated with ground-based intermediate-range nuclear forces, the U.S. Navy must be assuming a larger role in providing theater nuclear deterrence in Europe.

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## I. INTRODUCTION

Since ascending to power in 1985, President Gorbachev has instituted sweeping reforms in an effort to revive the Soviet Union's failing economy. These reforms have lead to rapid political transformations in the Soviet Union and Eastern Europe, as well as unprecedented advances in arms control negotiations. They have a significant impact on United States and European security calculations, so much so, that the United States must urgently rethink its National Military Strategy and its maritime component, the Maritime Strategy.

The Maritime Strategy, especially its so called "warfighting" component, has been the U.S. Navy's deterrent to the threat of a Warsaw Pact blitzkrieg campaign aimed at the rapid conquest of NATO-European territory. In the event that deterrence fails, this warfighting component consists of offensive concepts, designed to challenge Soviet forces throughout the world as far forward as possible. The Strategy seeks to bring war termination on favorable terms by having U.S. maritime power "take the fight to the enemy," seizing the initiative as far forward as possible. However, the Maritime Strategy needs to be reexamined in light of recent political changes and arms control advances. Some of its offensive concepts may no longer be in the best interests of the United States with the reshaping of the international security environment.

The United States and Soviet Union are destroying an entire class of nuclear missiles under The Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty) (U.S. Department of State, 1988, p. 7). This Treaty reaffirmed the principle of equality for U.S.-Soviet nuclear arms control. During the Strategic Arms

Limitation Talks (SALT) this principle was lost when the U.S. negotiated the SALT II Treaty. The U.S. approach for the SALT II Treaty was to establish overall "parity" or "essential equivalence" by establishing equal ceilings for the two sides on strategic nuclear delivery vehicles (National Academy of Sciences, 1985, p. 30). However, the numeric ceilings of the SALT II Treaty did not really provide equality because they did not establish equal ceilings on the destructive characteristics of the missiles, such as throw weight. The SALT II Treaty allowed the Soviet Union to maintain a large lead in the destructive capabilities of its land-based missiles (National Academy of Sciences, 1985, p. 42).

The INF Treaty also established unprecedented verification of compliance procedures. Verification measures contained in the Treaty include baseline inspections, short notice onsite inspections, monitoring of the elimination of missiles and launchers, and separate close-out inspections (U.S. Department of State, 1988, p. 7). The precedents established in the INF Treaty have carried over into the Strategic Arms Limitation Talks (START) and the Conventional Forces Europe (CFE) arms control negotiations.

The elimination of ground-based intermediate-range nuclear forces (INF), combined with opposition in Europe to the modernization of short-range nuclear forces (SNFs), has made it more difficult for NATO to maintain a credible Flexible Response Strategy.<sup>1</sup>

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<sup>1</sup>See Bernard E. Trainor, "NATO's Disquiet: A Strategy at Risk," *New York Times*, p. A10, 1 May 1989; Michael Gordon, "Reagan Arms Advisor Says Bush Is Wrong on Short-Range Missiles," *New York Times*, p. A1, 3 May 1989; Thomas Friedman, "Gorbachev Hands A Surprised Baker an Arms Proposal," *New York Times*, p. A1, 12 May 1989; Michael Gordon, "U.S. Offers to Talk On Battlefield Arms, But With Stiff Terms," *New York Times*, p. A1, 20 May 1989; Michael Gordon, "New U.S. Arms Line Would Slow NATO Cuts," *New York Times*, p. A11, 21 May 1989; R. W. Apple Jr., "A Successful Alliance Gropes for a Purpose," *New York Times*, p. D1, 21 May 1989; Michael Gordon, "NATO Dispute: Tug-of-War Over Limited Arsenal," *New York Times*, p. A6, 24 May 1989; "Excerpts From Joint Communique by Leaders at NATO Summit Meeting," *New York Times*, p. A15, 31 May 1989; James Markham, "NATO Proposal

The Navy can help this situation and the Maritime Strategy should be changed to reflect this.

Negotiations are in progress to reduce U.S. and Soviet strategic nuclear forces by 50 percent in the START. At the Malta summit meeting in December 1989, President Bush "put strategic arms negotiations on a fast track." (Gordon, 1989e, p. A8) A senior Bush Administration official has reportedly said that President Gorbachev would like to conclude a timely START agreement to show to his own military leadership that he is reducing the United States military threat to the Soviet Union (Gordon, 1989e, p. A8). If the U.S. and Soviet Union reach a START agreement in the near future, it will have a significant impact on the future composition of sea-based strategic nuclear forces and the strategies and counter-strategies associated with these platforms.<sup>2</sup> The United States should be prepared to modify the Maritime Strategy in the event that a START agreement is reached quickly.

There is also great optimism in both the East and West that a Conventional Forces Europe (CFE) agreement can be reached in 1990. President Bush stated in May 1989 that the United States seeks to reach an agreement within six to 12 months (Gordon, 1989d, p. A6). In July 1989, President Gorbachev said that an agreement could be reached as early as the next year (Whitney, 1989, p. A3). The Soviet Union also announced that it would accept the latest Bush troop proposal in February 1990 (Friedman, 1990, p. A1). If a CFE agreement is reached based on President Bush's

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'Disappoints' Shevardnadze," *New York Times*, p. A12, 1 June 1989; Thomas Friedman, "Last-Minute Arms Policy Worries Bush's Critics," *New York Times*, p. A6, 2 June 1989; Tom Wicker, "The Third Zero," *New York Times*, p. A27, 13 June 1989.

<sup>2</sup>The impact of a START agreement on sea based strategic nuclear forces is described in Chapter III, Section C.

proposal, the Soviet Union and United States will need to make substantial conventional force reductions that, practically speaking, will finally produce a NATO-Warsaw Pact conventional force "balance" in Central Europe. The current Maritime Strategy is based on the assumption that: "The probable centerpiece of Soviet strategy in global war would be a combined-arms assault against Europe, where they would seek a quick and decisive victory (Watkins, 1986, p. 7)."<sup>3</sup> If a CFE agreement is reached, the United States clearly needs to rethink its Maritime Strategy to account for the significant changes in conventional forces it will bring.

The rapid political changes taking place in Eastern Europe have significant implications for European security. The German Democratic Republic (GDR), Poland, Czechoslovakia, Hungary, Bulgaria, and Romania have all made sweeping and rapid reforms that can reasonably be expected to eventually lead to democratic governments and free market systems. It is clear, moreover, that the Soviet Union can no longer depend on its Warsaw Pact allies to assist in acts of aggression against the West. The United States needs to reevaluate its military strategies and forces to reflect the altered threat of the Warsaw Pact.

Finally, there is great pressure in both the East and West to reduce defense spending. The Soviet economy is in desperate condition. Clearly, the Soviet Union realizes it cannot afford the excessive military expenditures of the past. The United States is faced with a 2.8 trillion dollar national debt (Panetta, 1989, p. 1). Real United States defense spending has been declining since 1985 and will probably be cut further

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<sup>3</sup>The three articles in this magazine supplement are: "The Maritime Strategy," by Admiral James D. Watkins, USN, pp. 2-17; "The Amphibious Warfare Strategy," by General P. X. Kelley, USMC, and Major Hugh K. O'Donnell, Jr., USMC, pp. 18-29; and "The 600-Ship Navy," by John F. Lehman, Jr., pp. 30-40.

because of reduced perceptions of the Soviet threat. In short, both the United States and Soviet Union are faced with reduced defense spending because of economic reasons and the new political climate. Accordingly, it is highly unlikely that the 600 ship Navy envisioned by many supporters of the Maritime Strategy will ever materialize. Consequently, the Maritime Strategy should be adjusted to meet the realities of current fiscal restraints and lowered force levels.

This thesis examines the warfighting component of the Maritime Strategy in light of ongoing political changes and arms control negotiations. It also attempts to reformulate the Strategy so that American naval forces can continue to best contribute to U.S. and European security in the changing international security and political environment of the 1990s. The offensive concepts contained in the warfighting component of the Maritime Strategy are reviewed, and next, recent political changes and arms control advances are analyzed in terms of their anticipated impact upon these offensive concepts. Recommendations for reformulating the warfighting component of the Maritime Strategy are made in terms of naval purposes and strategies. Finally, broad recommendations are made for naval forces to best carry out the reformulated warfighting component of the Maritime Strategy for the 1990s.

## II. BACKGROUND

The Maritime Strategy is the maritime component of the National Military Strategy. It provides a broad concept or "global perspective to operational commanders," and is not intended to be tactical doctrine, or a detailed war plan. Instead, it is a guide to help the U.S. plan for "the global use of naval forces from peacetime through global war to war termination." (Watkins, 1986, p. 4)

The Maritime Strategy provides a framework for considering the uses of maritime power throughout the conflict spectrum. The Strategy is divided into four components:

- Peacetime Presence
- Crisis Response
- Warfighting
- War Termination

The peacetime presence component of the Maritime Strategy seeks to enhance deterrence, provide a clear sign of U.S. interest, and fosters a stable international setting by maintaining a U.S. Navy peacetime presence throughout the world. The crisis response component is designed to enhance deterrence and provide escalation control in time of crisis. The warfighting and war termination components of the Maritime Strategy are the subject of this thesis and are discussed in detail. Henceforth, these two components will simply be referred to as the "warfighting component."

The overall goal of the warfighting component of the Maritime Strategy is to "use maritime power, in combination with the efforts of our sister services and forces of our allies, to bring about war termination on favorable terms." (Watkins, 1986, p. 13)

Specifically, the objectives of the United States Navy and Marine Corps in a global war against the Soviet Union are: (Watkins, 1986, p. 14)

- Deny the Soviets their kind of war by exerting global pressure, indicating that the conflict will be neither short nor localized.
- Destroy the Soviet Navy: both important in itself and a necessary step for us to realize our objectives.
- Influence the land battle by limiting redeployment of forces, by ensuring reinforcement and resupply, and by direct application of carrier air and amphibious power.
- Terminate the war on terms acceptable to us and to our allies through measures such as threatening direct attack against the homeland or changing the nuclear correlation of forces.

The Maritime Strategy outlines how U.S. naval forces might be employed to obtain these objectives. According to one of its critics, John Mearsheimer, a "package of four offensive postures" is involved: (Mearsheimer, 1986, p. 5)

- Offensive sea control
- Direct naval impact
- Horizontal escalation
- Counterforce coercion

Mearsheimer noted that since the Strategy's unveiling, in 1981, different offensive concepts have been emphasized at various times, but that all four elements have been retained by the Navy throughout the history of the Strategy.

Recent arms control advances and political events have created changes that are bound to affect the way the United States approaches its national security. In the remainder of this chapter the offensive concepts listed above are reviewed as they are described by Mearsheimer and found in the current Maritime Strategy. Although, Mearsheimer's views and opinions are not without their critics, his observation that the Maritime Strategy consists of a "package of four offensive postures" is accurate and will

be used for purposes of analysis. In a later section of this study, these same concepts are analyzed in light of recent political changes and arms control advances.

#### **A. OFFENSIVE SEA CONTROL**

The Maritime Strategy's "offensive sea control" warfighting component calls for the Navy to rapidly destroy Soviet naval forces in forward areas, followed by a forward offensive into Soviet home waters. U.S. naval forces would move north of the Greenland-Iceland-Norway (GIN) gap to destroy Soviet attack submarines, surface ships, naval bases, air bases, and aircraft of the Northern Fleet on the Kola Peninsula. (Mearsheimer, 1986, p. 11)

An offensive sea control strategy would also include the traditional tasks involved in a "defensive" sea control strategy. Defensive sea control strategies are commonly portrayed to include so-called ASW "barriers" across the GIN gap to stop Soviet attack submarines, the conduct of open ocean ASW operations below the GIN gap to intercept submarines that penetrate the barrier, and finally the protection of troop, supply, and economic convoys with ASW assets. Soviet land-based aircraft would have to be met by NATO interceptor aircraft stationed in Norway, Iceland, Great Britain, and possibly Greenland. (Mearsheimer, 1986, p. 11) Nevertheless, an offensive sea control strategy emphasizes the forward offensive tasks.

There are several reasons which justify offensive sea control that center around protection of the sea lanes of communication (SLOCs) and northern Norway. It is argued that moving U.S. forces north will force the Soviets to hold their attack submarines in home waters, keeping them away from the SLOCs. It is also asserted that it is more militarily efficient to deal with the Soviet threat in their home waters, rather



than at the GIN gap. Finally, proponents of offensive sea control believe it is essential to protect northern Norway from Soviet attack. They believe that carrier operations in the Norwegian sea would be essential to provide air cover for NATO forces in the region. (Mearsheimer, 1986, p. 11)

Admiral James D. Watkins, the Chief of Naval Operations (CNO) explained as follows:

Aggressive forward movement of anti-submarine warfare forces, both submarines and maritime patrol aircraft, will force Soviet submarines to retreat into defensive bastions to protect their ballistic missile submarines. This both denies the Soviets the option of a massive, early attempt to interdict our sea lines of communication and counters such operations against them that the Soviets undertake. (Watkins, 1986, p. 9)

The protection of the Atlantic SLOCs to ensure the safe arrival of adequate American supplies and reinforcements on a European battlefield has always been viewed as crucial to the deterrence of Soviet aggression. Mearsheimer has written: "NATO must ensure that the Soviets are never in a position where they might conclude that although a war of attrition on the Central Front is likely, they could win that war in some reasonably short time frame by cutting NATO's SLOCs." (Mearsheimer, 1986, p. 10)

An American offensive sea control campaign is envisioned to evolve along roughly these lines (Mearsheimer, 1986, p. 12): first, nuclear powered attack submarines (SSNs) would conduct a "rollback" offensive, attacking and forcing back Soviet forces, especially submarines in the Norwegian and Barents Seas. Next, carrier battle groups would move into "sanitized" northern waters; their mission might include air strikes against Soviet naval and air bases on the Kola Peninsula. Such attacks may be complemented by cruise missile raids launched by submarines, aircraft, and surface strike groupings. Furthermore, the Maritime Strategy calls for "barriers" to be established across choke points to prevent

Soviet "leakers" from reaching the open ocean where they could threaten the Atlantic SLOCs.

Offensive sea control seeks to force the Soviet Union to withdraw and hold back its attack submarines in home waters, away from the Atlantic SLOCs. Proponents of the Maritime Strategy contend that this is the most efficient method for defending the SLOCs. The Strategy is also designed to protect the Norwegian flank from Soviet attack; a Soviet-occupied Norway, it is feared, would permit enemy land-based aviation to further endanger the movement of Allied reinforcement and resupply shipping.

## **B. DIRECT NAVAL IMPACT**

The "direct naval impact" warfighting component of the Maritime Strategy proposes that the U.S. Navy may "decisively" influence the outcome of the battle on land by attacking Soviet targets directly. Simply stated, direct naval impact is classic power projection; (Mearsheimer, 1986, p. 13) it is intended to provide impetus for the Soviet Union to negotiate for war termination on terms that are favorable to the West.

Direct naval impact can take several different forms, for example, amphibious attacks on the Soviet flanks:

Massed amphibious task forces, together with supporting battleship surface action groups, will now undertake landings to retake conquered territory and to seize key objectives in the Soviet rear. Operating as a component of the naval campaign, Marine air-ground task forces (MAGTFs) could land on the North Cape, the eastern Baltic or the Black Sea coasts, in the Kuriles, or on Sakhalin Island-thereby adding a crucial measure of leverage to the successful conduct of the maritime campaign. (Watkins, 1986, p. 26)

If such attacks were successful, proponents maintain that the Soviet Union would be forced to divert forces away from the Central Front.

Another method to achieve direct naval impact would be to use carrier-based aircraft directly in the Central Front areas. In a closely contested battle for the skies over Europe, naval aviation could prove to be decisive for a NATO victory. Control of the skies being crucial for every land battle, the addition of naval aviation to allied efforts to control the skies could be just the added advantage needed to obtain this goal.

A final method for implementing a direct naval impact strategy would be for the United States Navy to project power ashore by attacking targets on the Soviet homeland with carrier-based aircraft and cruise missiles. Such attacks could possibly be coordinated with the Army and Air Force in support of a NATO follow-on force attack (FOFA) strategy. The FOFA concept is based on the assumption that first echelon NATO and Soviet forces are relatively evenly matched. Thus, if Soviet reinforcements, or second echelon forces can be kept out of the forward battle, NATO's forward defense policy should work. FOFA seeks to locate and track Soviet forces during their entire process of employment, and to attack them before they reach the forward battle at points where they are most vulnerable (Sutton, Landry, Armstrong, Estes, and Clark, 1984, p. 53). In any case, these attacks would apply the power of the United States Navy to non-naval Soviet targets.

Direct naval impact missions involve increased risk. It would be difficult for naval forces simultaneously to maintain control of the air and provide adequate fire support during an amphibious attack if opposed by significant enemy ground-based air forces and submarines. Furthermore, the Marine Corps is not equipped to oppose heavy mechanized Soviet forces. In short, an opposed amphibious attack against the Soviet flanks would be risky for American forces. They could be crushed by larger, better equipped Soviet forces if the Soviet Union decided to dedicate the military power necessary to defeat the

amphibious assault. Of course, the diversion of Soviet forces away from the Central Front is a goal of direct naval impact missions. Nevertheless, amphibious assaults would be extremely risky for the forces performing the attack.

When carrier battle groups are in position for direct naval impact missions, they are also vulnerable to Soviet ground-based aviation attacks. If mission priorities dictate and if forces are available, the Soviet Union can apply sufficient air forces to overwhelm United States naval aviation. Again, this becomes a question of where and when the Soviet Union chooses to utilize its assets. Soviet planes that attack carrier battle groups are not attacking the Central Front.

### C. HORIZONTAL ESCALATION

Horizontal escalation calls for the United States Navy to threaten Soviet forces and interests throughout the world, not just in the European theater. The United States would use its maritime forces to deny the Soviets their preferred strategy of a short, single theater war (Brooks, 1986, p. 72). Admiral Watkins explains:

Forward deployment must be global as well as early. Deployments to the Western Pacific directly enhance deterrence, including deterrence of an attack in Europe, by providing a clear indication that, should war come, the Soviets will not be able to ignore any region of the globe. Should deterrence fail, such deployments tie down Soviet forces, especially strike aircraft, limiting the Soviet's ability to concentrate their forces on Central Europe. (Watkins, 1986, p. 10)

Horizontal escalation is designed to force the Soviets to redeploy their military forces outside the European theater, or not to redeploy other forces into Central Europe, by threatening Soviet interests outside the European theater.

During a war in Europe, U.S. naval forces in the Pacific could limit Soviet flexibility to shift its ground and aviation forces from the Far East Theater of Operations (TVD) to the Western TVD. Aggressive forward deployment of American carrier forces

in the Pacific would force Soviet tactical aviation assets to remain in the Far East and would demonstrate to other Asian nations that the U.S. intends to remain a Pacific power. This might influence nations such as China to maintain a posture of armed neutrality rather than cooperation, and thus would complicate Soviet decisions regarding the shifting of troops to Europe. (Brooks, 1986, p. 72)

Critics of horizontal escalation claim that it would be American forces, not Soviet, that are diverted from the European theater to fight in areas in which the Soviet Union could afford to accept setbacks. They also point out that Soviet military power in the Far East is formidable. It would be difficult for the United States Navy to achieve the desired results. (Mearsheimer, 1986, p. 31)

Although the Navy cannot open a major second ground offensive, it can make its presence felt by Soviet leaders in areas outside the European theater. Horizontal escalation seeks to create the "strategic effect" of opening a second front in the minds of Soviet decision makers, especially when they are contemplating shifting ground forces and aircraft from Asia to Europe and likewise when they are considering whether to continue hostilities or seek war termination.

#### **D. COUNTERFORCE COERCION**

The final offensive concept found in the warfighting portion of the Maritime Strategy is "counterforce coercion." This strategy calls for the United States Navy to alter the nuclear balance or in Soviet terms, the nuclear correlation of forces, in favor of the West by destroying Soviet ballistic missile submarines and by surrounding the Soviet Union with nuclear capable Tomahawk cruise missile platforms and carrier-based aviation.

Thus, in a conventional war, the nuclear balance would shift in favor of the West, exerting pressure on the Soviet Union to seek war termination.

Counterforce coercion is based on the assumptions that the Soviet Union considers the nuclear balance to be very important:

A war between the superpowers may not involve immediate nuclear weapons use, but it is in the sense that the nuclear balance is constantly examined and evaluated in anticipation of possible escalation. Because of this aspect of Soviet doctrine, the Soviets place a high priority on changing the nuclear balance, or as they term it, the nuclear correlation of forces, during conventional operations. (Watkins, 1986, p. 7)

As the Navy destroys more of the Soviet fleet, both Tomahawk cruise missile platforms and nuclear capable carrier strike aircraft will be free to move into position to threaten the Soviet homeland. Furthermore, as Soviet SSBNs are destroyed, the generally conservative Soviet military leadership will see the correlation of nuclear forces growing constantly less favorable. As the nuclear correlation becomes less favorable, escalation becomes less attractive, providing strong incentive for war termination. (Brooks, 1986, p. 73)

Counterforce coercion assumes that the Soviets will not escalate a conventional conflict to a nuclear conflict because of losses to their nuclear forces at sea. Critics claim that this strategy is dangerous because the Soviets may view such actions as the beginning of a damage-limiting strategic first-strike (Posen, 1982, p. 43). In response the Soviet Union might resort to nuclear escalation. Proponents of counterforce coercion claim that the threat of nuclear escalation enhances deterrence (Mearsheimer, 1986, pp. 14-15).

### **III. CHANGES THAT AFFECT U.S. AND EUROPEAN SECURITY IN THE 1990s**

#### **A. THE CONVENTIONAL FORCES EUROPE NEGOTIATION**

##### **1. The Negotiation Itself**

If a CFE agreement is reached and implemented, a NATO-Warsaw Pact conventional force balance would be established in Europe. Under such a balance, the likelihood of an East-West conflict would be greatly reduced. However, if war did break out, because of the conventional force balance, mobilization and reinforcement would become key factors in determining the outcome. Consequently, under the terms of a CFE agreement, the security of the Atlantic SLOCs would continue to be very important to the U.S. and NATO. Furthermore, with a conventional force balance in Europe, the threat of direct naval impact becomes greater to the Soviet Union. In theory, superior NATO naval forces could tip the balance of power in favor of the West by applying its firepower ashore in direct naval impact missions.

The 23 nations that comprise the North Atlantic Treaty Organization and the Warsaw Pact commenced negotiations on 9 March 1989 to reduce conventional armed forces in Europe. The CFE talks follow 15 years of negotiation between the United States and Soviet Union on Mutual and Balanced Force Reductions (MBFR). After 472 plenary meetings, the MBFR talks concluded in February 1989 without an agreement. CFE is an autonomous negotiation within the framework of the 35-country Conference on Security and Cooperation in Europe (CSCE). The 23 nations participating in CFE have pledged to take the views of the 12 neutral and nonaligned states into consideration in the CFE negotiation when appropriate (U.S. Department of State, 1989b, p. 3).

The mandate for the CFE negotiation took almost two years of consultations to develop,<sup>4</sup> and stipulates that "the subject of negotiation shall be the conventional armed forces, which include conventional armaments and equipment, of the participants based on land within the territory of the participants in Europe from the Atlantic to the Urals (ATTU)." (U.S. Department of State, 1989b, p. 5) It also specifies that nuclear weapons, chemical weapons, and naval forces will not be addressed in the CFE forum. With regard to verification, the CFE mandate stipulates: "Compliance with the provisions of any agreement shall be verified through an effective and strict verification regime which, among other things, will include on-site inspections as a matter of right and exchanges of information." (U.S. Department of State, 1989b, p. 5)

In May 1989, the Warsaw Pact and President Bush both made new CFE proposals. The two proposals were very similar in many respects. The U.S. and Soviet Union appear to be in general agreement as to exactly what type of forces should be reduced and on the scope of those reductions. This has lead to great optimism that a CFE agreement could be reached in 1990.<sup>5</sup>

President Bush's proposals of 29 May 1989 and 31 January 1990 will most likely form the basis for a CFE accord for several reasons. First, France considers the Warsaw Pact proposal to be too restrictive for French bombers that can be used to deliver nuclear weapons. The French are apprehensive of the May 1989 Bush proposal for the same reason, but they have agreed to support it. Secretary of State Baker has indicated that NATO aircraft reductions would not affect the French nuclear bomber forces (Friedman, 1989, p. A1). The second reason why the Bush proposals will

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<sup>4</sup>Consultations were held in Vienna from 17 February 1987 until 10 January 1989.

<sup>5</sup>See Section I, p. 3.



probably form the basis for an agreement is because they are more attractive to President Gorbachev, given the Soviet need to reduce military spending. Finally, President Gorbachev has publicly stated that the May 1989 Bush proposal has met the Warsaw Pact halfway (Whitney, 1989, p. A3). This could be an indication that the Soviet Union recognizes the concessions made in the proposal and would be willing to accept a final CFE agreement based upon it. Therefore, the Bush proposals will be analyzed to see what impact the proposals would have on the Maritime Strategy.

On 29 May 1989, President Bush announced the following CFE proposal, on behalf of NATO, to the Warsaw Pact. (Sivers, 1989, p. 57)

1. Register Warsaw Pact agreement on tank and armored troop carriers (ATC) limits (20,000 tanks, 28,000 ATCs). Negotiate artillery limits, including definitional issues, at level proposed by NATO. All withdrawn equipment to be destroyed.
2. Expand current NATO proposal to include reductions by each side to equal ceilings 15% below current NATO levels in helicopters and all land-based combat aircraft in the Atlantic to the Urals (ATTU) area, with all withdrawn equipment to be destroyed.
3. Propose a 20% cut in combat manpower in US stationed forces, and a resulting ceiling on US and Soviet ground and air force personnel stationed abroad in the ATTU area at approximately 275,000; withdrawn forces to be demobilized.
4. Seek agreement within 6-12 months and accomplish the reductions by 1992 or 1993.

A formal proposal detailing President Bush's plan was tabled on 13 July 1989 by NATO. Each alliance would be restricted to 5,700 combat aircraft and 1,900 combat helicopters in the ATTU area. No one country would be permitted more than 30% of the combined total for the alliances, i.e., 3,420 combat aircraft and 1,140 combat helicopters.

Despite the general agreement that exists, there are some differences that remain between NATO and the Warsaw Pact. In the category of combat aircraft, NATO includes all aircraft with combat capability, while the Warsaw Pact desires to include only aircraft capable of ground attack. The Soviet delegation is reported to have offered

permanent inspections at military airfields to ensure fighter-interceptor aircraft are not being equipped for ground attack (Sivers, 1989, p. 57). NATO considers a main battle tank to weigh greater than 26 tons and to have a gun caliber of at least 90 millimeters. The Warsaw Pact desires to include light tanks in any limits. Finally, the Warsaw Pact considers reconnaissance vehicles to be included in ATC limits, a view that NATO rejects.

In his first State of the Union address, on 31 January 1990, President Bush proposed even greater CFE troop cuts. Specifically, the President proposed that U.S. and Soviet European combat forces be cut to 225,000; of whom 195,000 could be stationed in Central Europe (Apple, 1990, p. A1). Central Europe is defined as East and West Germany, Belgium, the Netherlands, Luxembourg, Denmark, and all the Warsaw Pact countries except the Soviet Union, Rumania, and Bulgaria (Gordon, 1990, p. A8). A senior administration official told reporters that the new proposal was needed because "events were running ahead of negotiations." (Apple, 1990, p. A1)

Since virtually all Soviet troops are stationed in the central zone, the new proposal would effectively limit the Soviet Union to 195,000 troops stationed outside its borders. Under the proposal, the U.S. would be able to maintain 30,000 troops outside the central zone. U.S. troops currently stationed outside the central zone are in the United Kingdom, Italy, Greece, Spain, Portugal, and Turkey. The governments of Britain, West Germany, Italy, and France all concur with the President's proposal (Apple, 1990, p. A1). In February 1990, the Soviet Union announced they would accept President Bush's latest proposal (Friedman, 1990, p. A1).

The United States has 297,000 Army, Air Force, and Marine Corps personnel stationed in the ATTU zone, and would have to demobilize 72,900 ground and/or air

force personnel to meet the Bush proposal limit of 225,000 men (International Institute for Strategic Studies, 1989, pp. 16-27). The Soviet Union has 555,000 ground and air force personnel stationed in Hungary, the German Democratic Republic, Poland, and Czechoslovakia, and would have to demobilize 360,000 men to reach the Bush limits, assuming they do not transfer any troops to Romania or Bulgaria (International Institute for Strategic Studies, 1989, pp. 32-42). Since the Bush proposal does not stipulate specific forces to be reduced, both sides would be free to demobilize forces as they see fit.

Ground equipment levels in the ATTU region for NATO, the Warsaw Pact, and the Soviet Union within the Warsaw Pact are summarized in the following table.

TABLE I<sup>6</sup>

	NATO	WP TOTAL	USSR
Main battle tanks	21,900	58,500	40,640
AIFV	7,000	24,700	20,530
APC	27,000	49,300	33,345
Artillery, MRL, & mortars	18,100	49,600	32,000
Armed helicopters	1,100	1,515	1,180

AIFV = Armored infantry fighting vehicle

APC = Armored personnel carrier

MRL = Multiple rocket launcher

It is obvious from the figures that the Warsaw Pact, especially the Soviet Union, would have to make substantial reductions in ground equipment to reach the limits proposed by President Bush.

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<sup>6</sup>Compiled from information found in *The Military Balance 1989-1990*.

In July 1989, Secretary of State Baker announced that NATO would define combat aircraft as anything that "flies and shoots," regardless of its mission. NATO asserts that it has 6,700 combat aircraft in the ATTU zone and should reduce to 5,700. NATO also contends that the Warsaw Pact has approximately 9,600 combat aircraft in the ATTU zone, and should also reduce to 5,700. (Friedman, 1989, p. A1) In general, these definitions and limits have not been well received by the Soviet Union.

In early February 1990, NATO changed its positions on combat aircraft and helicopters in attempt to move the two sides closer to an agreement. NATO lowered its proposed ceiling on combat aircraft from 5,700 to 4,700, bringing it in line with Warsaw Pact proposals. The Alliance also suggested that only helicopters with anti-tank guided weapon (ATGW) capability be included in counts of combat aircraft. The new proposal also allows each side to maintain up to 500 "air defense interceptors" in addition to the 4,700 aircraft. Additional interceptors could be kept, but would be counted against the 4,700 aircraft ceiling. A detailed definition of "air defense interceptors" was left open for discussion. Moscow has argued that their large force of interceptors should be excluded from limits because they were designed to defend the Soviet homeland. The latest NATO proposal is a compromise designed to allow the Soviets flexibility while still applying an absolute ceiling on combat aircraft. (Lewis and Slade 1990, p. 282)

The Soviet Union would have to make substantial reductions in its conventional forces in order to meet the limits of the Bush CFE proposals.<sup>7</sup> At this point it should be noted that the figures presented in this section are changing even as this is being written. Many East European countries and some West European nations are

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<sup>7</sup>For the remainder of this section all force levels presented were compiled from *The Military Balance 1989-1990*.

planning and implementing unilateral troop reductions. Nevertheless, these figures are still useful as a tool for evaluating the CFE negotiation in a broad context. The Warsaw Pact has 2,317,000 men in its ground forces in the ATTU zone. Of those men, 1,259,000 belong to non-Soviet Warsaw Pact nations and 1,058,000 men are members of Soviet ground forces. To comply with the Bush proposals, the Soviet Union would have to demobilize 360,000 men stationed abroad in the ATTU zone. This will leave 698,000 Soviet ground forces in the ATTU zone with no change in the number of non-Soviet ground forces. NATO has 2,243,000 men in its ground forces in the ATTU zone. After the United States demobilized 72,900 men to reach the Bush proposal limits, NATO would be left with 2,170,100 men to face 1,957,000 Warsaw Pact ground forces.

Equipment reductions have an even greater effect on Soviet military forces in the ATTU region.<sup>8</sup> The Warsaw Pact has 58,500 main battle tanks (MBT), of which 40,640 belong to the Soviet Union. To reach the Bush proposal limits of 20,000 tanks, the Warsaw Pact would have to destroy 38,500 MBT. The Soviet Union would be left with 13,894 tanks, assuming reductions are made proportionally among each nation in the Warsaw Pact. NATO has 21,900 MBT, and would have to destroy only 1,900 tanks. The United States could accomplish its share of reductions by simply destroying 434 tanks from prepositioned equipment (POMCUS) stocks.

The Bush CFE plan would force the Soviet Union to make a 34 percent reduction in manpower and a 66 percent reduction in main battle tanks in the ATTU

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<sup>8</sup>This discussion considers only main battle tanks because they are considered to be the most "offensive" weapon, and because they provide the best indication of CFE reductions until equipment definitions are finalized. Data presented is based on the definition and counts found in The Military Balance 1989-1990. Hence, the NATO-Warsaw Pact definitional disagreement concerning main battle tanks does not affect this analysis.

zone. The Soviets would still have 778,000 men west of the Ural mountains, however, they would not have nearly enough equipment to outfit these forces. The equipment reductions proposed by President Bush are extremely effective in neutralizing the offensive capabilities of the Soviet military.

The May 1989 Bush proposal would also require East European Warsaw Pact members to make significant military equipment reductions. Although they would not be required to demobilize any troops, East European nations would also have to make a 66 percent reduction in main battle tanks, assuming proportional reductions. Again these reductions would greatly reduce, if not eliminate the offensive potential of East European military forces.

If the Bush CFE proposal were to be implemented without significant modification, the offensive military capabilities of the Soviet Union in Europe would be effectively neutralized. A NATO-Warsaw Pact conventional force balance would exist in Central Europe at force levels slightly below the current NATO levels. NATO and Warsaw Pact military postures would be decisively less offensive. Neither side would realistically be able to launch a surprise attack against the other and hope to gain a quick victory using blitzkrieg tactics. The likelihood of an East-West conflict in Europe would be extremely small after the implementation of such a CFE agreement. However, if war were to occur, it likely would be a protracted conflict because neither side would be able to quickly amass the military forces necessary for victory.

There are drawbacks to the Bush CFE proposal. It does not address Soviet forces East of the Ural Mountains. Nothing in the Bush plan would limit the Soviet Union from conducting a military buildup East of the Ural Mountains. Currently, the Soviet Union maintains roughly 25-30 percent of its conventional forces East of the Ural

Mountains. If Soviet security concerns in Asia allowed, these troops could be moved into the European theater.

## **2. Effects on the Maritime Strategy**

The warfighting component of the Maritime Strategy is based on the assumption that: "The probable centerpiece of Soviet strategy in global war would be a combined-arms assault against Europe, where they would seek a quick and decisive victory." (Watkins, 1986, p. 7) Obviously, the implementation of a CFE agreement would negate this assumption, but how would a CFE accord affect the Maritime Strategy? Since, a post-CFE European East-West conflict would be a war of attrition, the reinforcement of the Central Front and mobilization will play key roles in determining the outcome. The Soviet Union would be more dependent on reinforcements from east of the Urals and NATO would be more dependent on reinforcements from the U.S. The Chief of NATO's Military Committee, General Vigleik Eide of Norway shares this view, recently telling journalists in Brussels that "substantial cuts in standing forces in Europe would increase Europe's dependence on reinforcements from the United States." (Supreme Headquarters, Allied Powers Europe, 1989, p. 11) If a CFE agreement is reached and implemented, the security of the Atlantic SLOCs would continue to be extremely important to the Atlantic Alliance.

The threat of direct naval impact would become greater to the Soviet Union after the implementation of a CFE agreement. Would it be unreasonable for the Soviet Union to conclude that the direct naval impact capability of the United States Navy and Marine Corps would tip the conventional force balance in favor of NATO after a CFE agreement? This conclusion is argumentative, but is not without its merits. The Soviet

Union has argued that after a CFE accord, there is a legitimate need for the United States and Soviet Union to engage in naval arms control.<sup>9</sup>

A CFE agreement would have two major impacts on the United States Maritime Strategy. First, the security of the Atlantic SLOCs become continue to be extremely important to NATO, because any future East-West European conflict would become a war of attrition. Second, the offensive concept of direct naval impact in the European theater will become more controversial.

## **B. POLITICAL CHANGES IN EASTERN EUROPE**

Changes have been sweeping through Eastern Europe at phenomenal rates. It is difficult to keep pace with reforms. Nevertheless, it is clear that the end of the communist era has come in the German Democratic Republic, Czechoslovakia, Hungary, Poland, Bulgaria, and Romania. These countries have all thoroughly rejected their communist pasts and have started the difficult transition to democracy and free market economies.

On 2 November 1989, Hungarian Minister of State Imre Pozsgay said that both the United States and Soviet Union should begin a phased troop withdrawal that would leave Europe demilitarized by the year 2000 (Strobel, 1989, p. 1). U.S. officials have reported that in the CFE negotiation in Vienna, "Hungarians are openly maneuvering for treaty language that would remove all Soviet forces and equipment from their soil." (Fialka, 1989, p. 12) Hungary has also imposed budget cuts that will result in a one-third reduction in its forces (Budiansky, 1989, p. 49).

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<sup>9</sup>See Clyde Haberman, "Gorbachev, Visiting Italy, Urges Talks on Naval Arms, *New York Times*, p. A13, 30 November 1989; and "Text of Bush-Gorbachev News Conference on Malta Meeting," *New York Times*, p. A10, 4 December 1989.



Officials also report that the Polish are maneuvering for a CFE treaty that would limit, but not totally remove the Soviet military presence in Poland. (Fialka, 1989, p. 12) Mikolaj Kozakiewicz, speaker of the parliament in Poland, has pointed out that the 1939 invasion of Poland by Germany is still vividly remembered (Strobel, 1989, p. 1). Consequently, many Poles are not yet comfortable with the thought of a reunified Germany and the total withdrawal of Soviet troops. Nevertheless, in January 1990, Solidarity leader Lech Walesa told the Soviet ambassador that the removal of all 45,000 Soviet troops from Poland by December should be tied to closer bilateral relations (Stanglin, 1990, p. 36). It has also been reported that Poland has refused to contribute to a fund being established by the Soviet Union to modernize Warsaw Pact forces that remain after the CFE negotiation. Poland has also announced that it will unilaterally reduce its ground forces 45 percent by disbanding four army divisions and reducing two others by 90 percent. (Fialka, 1989, p. 12)

In early December 1989, Czechoslovak Prime Minister Ladislav Adamec demanded a "radical reassessment" of the Warsaw Pact, including the possible withdrawal of Soviet troops from Czechoslovakia (Budiansky, 1989, p. 49). On 14 December 1989, Foreign Minister Jiri Dienstbier said that the 1968 agreement which allows Soviet troops to be stationed in Czechoslovakia was "invalid" because it was made under pressure. He went on to call for talks with Moscow that could lead to their withdrawal. (Auerbach, 1989, p. 45) By January 1990, Soviet and Czechoslovak negotiators were wrangling over a demand that Moscow withdraw all of its 75,000 troops by the end of the year (Stanglin, 1990, p. 36).

It is clear that the Warsaw Pact, as a military organization, is on the verge of dissolving. Phillip Karber has said that "the pact is not a functioning alliance any more."

(Budiansky, 1989, p. 49) Former Defense Secretary James Schlesinger has said: "one can scarcely look at Polish, Hungarian, Czechoslovak or East German divisions as even being available to the Warsaw Pact." (Walcott, 1989, p. 24) Consequently, the Soviet Union can no longer incorporate the military forces of East European nations into its strategic planning. The non-Soviet members of the Warsaw Pact account for the following military contributions in the ATTU zone.<sup>10</sup>

TABLE II<sup>11</sup>

	WP TOTAL	SOVIET	NON-SOVIET
Ground forces	2,317,000	1,058,000	1,259,000
Tanks	58,500	40,640	17,860

East European nations have essentially become a buffer between NATO and the Soviet Union. They will be friendly to both the East and West, but at the same time, would resist acts of aggression that violate their sovereignty by either side.

The Soviet Union will probably go ahead with a CFE agreement based on the Bush proposals, despite changes in Eastern Europe essentially causing the end of the Warsaw Pact. The Soviets need to get a conventional arms control agreement signed for economic reasons. They cannot afford to maintain the military forces that they keep in Eastern Europe. Currently, approximately one third of the United States defense budget is spent on forces stationed or slated to be in Europe within 10 days of a conflict

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<sup>10</sup> For more data on military equipment, see Section III, p. 19.

<sup>11</sup> Compiled from information found in *The Military Balance 1989-1990*.

(Walcott, 1989, p. 28). Given that the Soviet economy is half that of the United States,<sup>12</sup> the military forces that the Soviet Union maintains for possible use in Europe must be bankrupting their nation.

In addition, the CFE negotiation is becoming increasingly important as a forum to preserve stability as the Warsaw Pact dissolves. Jack Mendelsohn, deputy director of the Arms Control Association, explains: "Arms control is now seen as a framework for structuring the disengagement that is taking place in Central Europe, instead of a means of fostering it." (Stanglin, 1990, p. 36) Without the CFE negotiation, rapid troop reductions might destabilize Central Europe. The Soviets also realize that a CFE agreement will probably only be the beginning for follow-on negotiations concerning armed forces in Europe.<sup>13</sup> President Gorbachev realizes that if a CFE agreement is reached, and if change continues in Eastern Europe, individual NATO nations will probably unilaterally reduce their military forces beyond what is called for by a CFE accord.

The political changes in Eastern Europe amplify the same impacts that a CFE agreement would have on the Maritime Strategy. That is, the political changes in Eastern Europe continue to make the Atlantic SLOCs militarily important to NATO. They also make the offensive concept of direct naval impact more problematic, in that, the Soviet Union is giving up its large advantages in ground forces. Using similar justifications, the

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<sup>12</sup>Assuming Soviet gross national product was 1,900-2,487 billion dollars and U.S. gross domestic product was 4,839.2 billion dollars in 1988. Source: *The Military Balance 1989-1990*.

<sup>13</sup>See "Transcript of Bush's News Conference After the Malta Talks," *New York Times*, p. A11, 4 December 1989.

Soviet Union has asked the Atlantic Alliance do the same with its advantages in naval forces.

### C. THE STRATEGIC ARMS LIMITATION TALKS

A START treaty would have significant impact on the Maritime Strategy. If a treaty is reached based on the general approach agreed to by both sides, the nature of the Soviet nuclear powered ballistic missile submarine (SSBN) force will change dramatically. Within a few years, the Soviet SSBN fleet would consist exclusively of Delta IV and Typhoon-class submarines under a START treaty. These boats are probably quiet enough to operate independently in open ocean, and do not need to be protected in bastions. Under such conditions, Soviet SSNs would be free to conduct an anti-SLOC campaign in the Atlantic. Furthermore, a counterforce coercion strategy would be more risky after a START agreement, because each Soviet SSBN would carry a much greater relative portion of the Soviet strategic weapons.

In December 1987 during the Washington Summit, the U.S. and Soviet Union agreed in principle to the following START limits:<sup>14</sup> ("Joint Statement by Reagan, Gorbachev," 1987, p. A34)

- 6,000 nuclear warhead ceiling
- 4,900 warhead sublimit on intercontinental ballistic missiles (ICBMs) and sea launched ballistic missiles (SLBMs) combined

The 6,000 nuclear warhead limit would apply to gravity bombs, air launched cruise missiles (ALCMs), and all ballistic missiles.

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<sup>14</sup>The START negotiation is very involved and complicated. Only the portions of the negotiation that have an impact on maritime forces will be considered in this discussion.

The U.S. has generally viewed constraints on nuclear sea launched cruise missiles (SLCMs) as being unverifiable (Wilson, 1985, p. 8). A study conducted by the Congressional Research Service states:

This study concludes that, given current technologies and the existing state of U.S.-Soviet relations, no approach that would bring current generations of nuclear-armed land-attack SLCMs within the framework of a comprehensive numerical arms control regime could be verified with an acceptable degree of confidence, with the possible exception of a total ban on the production and deployment of all cruise missiles. (Congressional Research Service, 1985, p. CRS-1)

At the Reagan-Gorbachev summit in December 1987, the U.S. and Soviet Union agreed to "find a mutually acceptable solution to the question of limiting the deployment of long-range, nuclear-armed SLCMs," with SLCM ceilings distinct from START limitations of 6,000 warheads and 1,600 strategic offensive delivery systems. The two sides also agreed "to seek mutually acceptable and effective methods of verification of such limitations, which could include the employment of National Technical Means, cooperative measures, and on-site inspection." (*Weekly Compilation of Presidential Documents*, 1987 p. 1495)

In November 1988, the U.S. Arms Control and Disarmament Agency made the following statement:

Thus far, the U.S. has not identified any effective verification approach for SLCMs. In the absence of a plan for effective verification, the U.S. proposed that the sides make non-binding declarations of nuclear SLCM numbers. (U.S. Arms Control and Disarmament Agency, 1988, p. 2)

The Soviet Union has made many proposals concerning SLCMs. In April 1987, Moscow proposed a ceiling of 1,000 for all types of long-range SLCMs (Delaere, 1989, p. 158). Long-range SLCMs are defined by the Soviets as those missiles with ranges greater than

600 kilometers.<sup>15</sup> Moscow also proposes sublimits of 600 conventional SLCMs on certain agreed categories of ships and 400 nuclear SLCMs on two types of submarines and one type of surface ship. (Gordon, 1988, P. A3)

On 13 July 1989, Chief of the Arms Control Directorate of the General Staff, Col. General Nikolai Chervov, proposed that the Soviet Union would remove all its nuclear-armed sea-launched cruise missiles if the United States did the same (Smith, 1989, p. 1). The U.S. Chief of Naval Operations at the time of the proposal, Admiral Carlisle Trost, pointed out that such a proposal would strip the Soviet Navy of its offensive capability because a large percentage of Soviet SLCMs have nuclear warheads. He went on to say: "so when they propose to do away with all nuclear warhead missiles on their ships, I don't believe they are serious." (Coughlin, 1989, p. 13) Admiral Trost also stated that a ban on sea-launched cruise missiles would be unverifiable short of intrusive shipboard inspections that would not be permitted by the U.S. Navy because of intelligence the Soviet inspectors could collect (Coughlin, 1989, p. 13).

On 9 February 1990, Secretary of State Baker announced that the U.S. and Soviet Union reached an agreement on how to handle SLCMs within the START negotiation. Baker said, "I think there is pretty much an irrevocable agreement" to use a "declaratory approach" under which the two countries would publicly state their limits on sea-launched nuclear weapons. He said this understanding would be a side agreement to the START treaty and would probably not be subject to Senate ratification. Up until this announcement, nuclear-armed SLCMs were seen as a major issue separating the two sides in the START negotiation. (Oberdorfer and Kamen, 1990, pp. A1 and A19).

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<sup>15</sup>Currently, the Soviet Union has only one SLCM with a range greater than 600 kilometers. That missile is the SS-N-21 Sampson. Source: *The military Balance 1989-1990*, p. 222.

To meet START limits, both sides will have to significantly reduce its SSBN fleets. The U.S. currently has nine operational Trident submarines,<sup>16</sup> with funding approved for nine more. Funding for the 19th Trident submarine has a provision that withholds funds pending either one of two actions by the executive branch: certification by the Secretary of Defense that the Trident construction schedule of one per year would not lead to early retirement of submarines; or a request by the President for a new production schedule that matches the U.S. negotiating position and prevents retirement of older submarines before the end of their useful lives (Bumpers, 1989, p. 27). Assuming each Trident submarine carried 24 missiles, and each missile had eight warheads (International Institute for Strategic Studies, 1989, pp. 16 and 216), then 18 Trident submarines could carry 3,456 of the 4,900 ballistic missile warheads the U.S. would be allowed under a START agreement, or 70.5 percent. Currently, SSBNs carry 68.5 percent of U.S. ballistic missile nuclear warheads.<sup>17</sup> If the United States desires to maintain approximately the same ratio of SLBM to ICBM warheads after a START agreement, it would build a total of 18 Trident submarines. Under such conditions, each Trident submarine would represent 192 warheads or 3.9 percent of the U.S. inventory under a START treaty.

In early 1989, the sixth Soviet Delta IV SSBN commenced sea trials, and the sixth Typhoon-class SSBN was launched (U.S. Department of Defense, 1989, p. 47). Each Delta IV SSBN carries 16 SS-N-23 SLBMs with ten warheads per missile (International Institute for Strategic Studies, 1989, pp. 33 and 222). Each Typhoon-class SSBN carries

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<sup>16</sup>This figure includes the *USS Tennessee*, which has been testing the Trident D-5 missile system. Source: *The Military Balance 1989-1990*. The *Tennessee* became fully operational, with the D-5 system in February 1990.

<sup>17</sup>Calculated from information found in *The Military Balance, 1989-1990*.

20 SS-N-20 SLBMs with six warheads per missile<sup>18</sup> (International Institute for Strategic Studies, 1989, pp. 33 and 222). Thus, these 12 submarines could carry 1,680 of the 4,900 ballistic missile nuclear warheads the Soviet Union would be allowed under a START agreement, or 34 percent. Currently, the Soviet Union has approximately 29.6 percent of its ballistic missile nuclear warheads in SSBN forces.<sup>19</sup> Under a START agreement, each Typhoon and Delta IV SSBN would carry 2.5 and 3.3 percent of the Soviet ballistic missile nuclear warheads respectively.

A START agreement would change the nature of Soviet SSBN fleet. Currently, only ten out of 62 Soviet SSBNs are the modern Delta IV or Typhoon-class. Because the majority of the Soviet SSBN fleet consists of older, more noisy submarines that would be vulnerable to attack by U.S. SSNs and ASW forces, the U.S. believes that current Soviet Strategy calls for forming "bastions" where SSBNs would be protected from NATO ASW forces:

The Soviets have established an elaborate protection scheme whereby naval, air, and shore assets, in conjunction with the natural Arctic ice zone, protect SSBN bastion areas against US/NATO antisubmarine forces. Utilizing these combined arms assets, the Soviets hope to reduce significantly the vulnerability of their SSBNs. (U.S. Department of Defense, 1989, p. 47)

Typhoon and Delta IV class SSBNs are much quieter than their predecessors. Representative Les Aspin, Chairman of the House Armed Services Committee has said that the Soviets have started to construct submarines quiet enough to present "a major technological challenge with profound national security implications for the U.S." (Robinson, 1989, p. 8) In fact, the Typhoon and Delta IV submarines are so advanced,

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<sup>18</sup>The U.S. Department of Defense believes that each SS-N-20 SLBM can carry up to 10 warheads. See *Soviet Military Power 1989*, p. 47.

<sup>19</sup>Calculated from information found in *The Military Balance, 1989-1990*.



they do not require protected bastions in which to operate. They possess sufficient stealth to patrol alone in open ocean, similar to U.S. SSBNs. The Department of Defense recognizes the technological advances being made in Soviet submarines: "the newer diesel and nuclear submarines entering the Soviet fleets today are far superior in design, stealth, and combat capability to those they replace, and they represent a significant challenge to US ASW superiority." (U.S. Department of Defense, 1989, p. 130)

There is a great deal of evidence to support the hypothesis that the latest generation of Soviet SSBNs are so quiet that they do not require guarded bastions to protect them from Western ASW forces. Tom Stefanick estimates that a slow-moving Typhoon SSBN radiates sound at 120 decibels (dB) (Stefanick, 1987, p. 40).<sup>20</sup> According to Stefanick, this sound level is equivalent to a U.S. Los Angeles class SSN and is quieter than all other U.S. submarines, with the exception of the Trident SSBN (Stefanick, 1987, p. 274). Former Chief of Naval Operations, Admiral James Watkins, has stated that it is estimated that the Akula class SSN "may be as quiet as some of the SSN-688s deployed in the late 1970s." (Naval Submarine League, 1986, p.98) Stefanick's estimates coincide exactly with Admiral Watkin's statement, giving them added credibility.

Under a START agreement the Soviet SSBN fleet would probably consist entirely of Delta IV and Typhoon-class SSBNs. Assuming the Soviets maintain the same ratio of SLBMs to ICBMs, the six Delta IV and six Typhoon-class SSBNs that currently exist would be sufficient to achieve this result, without any further construction. Consequently, it would be far less necessary for the Soviet Navy to maintain protected bastions for its SSBNs after a START agreement. This would free up Soviet SSNs to conduct anti-

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<sup>20</sup>Referenced to 1 micropascal at 1 yard at a 1 hertz band.

SLOC operations in the Atlantic. It would also free up Soviet ASW forces to seek out U.S. SSNs that might be threatening the Soviet Union with cruise missiles.

The counterforce coercion strategy contained in the Maritime Strategy has always been very controversial. Barry Posen has written:

A deliberate conventional campaign against Soviet SSBNs could be understood by the Soviets as the beginning of a damage-limiting strategic first-strike. Given the importance of nuclear weapons and nuclear war in Soviet doctrine, even the appearance of such a campaign could trigger dire consequences. American leaders may be surprised by the Soviet response, since they seem to believe that so long as nuclear weapons have not been used in destroying Soviet strategic forces, the prospect of Soviet escalation is not raised. (Posen, 1982, p. 43)

Under the conditions of a START agreement, deliberately seeking out and attacking enemy SSBNs could become more destabilizing, because every SSBN would represent a much greater portion of each country's total strategic nuclear arsenal. As was shown earlier, sinking one Soviet SSBN under the conditions of a START agreement could destroy 3.3 percent of the Soviet nuclear ballistic warheads.

A declaratory counterforce coercion strategy might not be prudent after the implementation of a START agreement. If a START agreement is reached, U.S. naval forces should actively attack all Soviet submarine contacts, but should not go out of their way to single out Soviet SSBNs. To forbid the attack of Soviet SSBNs by U.S. SSNs is not technically feasible. U.S. attack submarines would have to give up their acoustic advantage in order to discriminate between Soviet SSNs and SSBNs, if they could at all.

Vice Admiral Lee Baggett, Jr, Director of Naval Warfare said:

I think [requiring U.S. attack submarines to distinguish between Soviet SSBNs and SSNs] would be a stricture that would be very, very onerous from the standpoint of ASW. I don't believe you could make a distinction in a combat environment-even prehostilities-with certainty to distinguish between SSBNs and attack submarines. It is going to get worse in the future with the quieting trends that I depicted, regardless of our capabilities. I think you would not be able, with any certainty, to make that distinction. (U.S. Congress, 1986, p. 4399)

Barry Posen holds the same position writing: "Once submerged, however, they [Soviet SSBNs] are largely indistinguishable from attack submarines to Western ASW sensors." (Posen, 1982, p. 33)

It is possible that the Soviet Union might attempt a counterforce coercion strategy against U.S. SSBNs. If such a strategy were successful, it would be particularly destabilizing because the U.S. keeps a much bigger portion of its strategic nuclear forces in SSBNs. In this case, the U.S. would be forced to retaliate by attacking Soviet SSBNs. However, this scenario is highly unlikely for several reasons. First, the Trident submarine is one of the most quiet submarines in the world. It is doubtful that the Soviet Union would be able to successfully locate and attack it. Second, given the superiority of U.S. ASW and submarine technology, the Soviet Union would have nothing to gain by initiating such attacks. When all factors are considered, counterforce coercion will probably take care of itself in the 1990s. SSBNs on both sides are becoming so quiet, they will be extremely difficult to locate. Both the U.S. and Soviet Union will find it exceptionally difficult to carry out a counterforce coercion strategy, even if they wanted to.

According to the Department of Defense, "SLOC interdiction and sea denial are lower priority missions for the Soviet Navy." (U.S. Department of Defense, 1989, p. 128) A START agreement could change the priority Soviets assign to the various wartime maritime missions. With their SSBN fleet consisting entirely of modern quiet submarines that could operate independently, the Soviet Union may decide that a SLOC interdiction campaign should become a primary maritime mission. Of course such a decision would depend on the overall Soviet estimate of the shape and conduct of a future war. Nevertheless, advances in arms control and Soviet submarine technology

make this a strong possibility. Furthermore, if a CFE agreement is reached, mobilization and reinforcement would become much more important in a war in Europe. Under such conditions, it would be logical for the Soviet Navy to give SLOC interdiction a high priority.

Another factor that contributes to this prediction is the fact that Soviet SSNs are closing the technological gap in terms of stealth and combat capability with U.S. SSNs. Furthermore, the newer Soviet submarines are comprising a growing percentage of the Soviet fleet. Submarines such as the Akula and Sierra class are a much greater threat to the Atlantic SLOCs than their predecessors. These SSNs are quiet enough to slip past NATO ASW forces into the Atlantic, where they could attack NATO shipping with significant results. Tom Stefanick estimates that the Soviet Sierra and Akula class SSNs are as quiet as early U.S. Los Angeles class SSNs and more quiet than U.S. Sturgeon class SSNs (Stefanick, 1987, p. 274). Advances in Soviet submarine capabilities don't guarantee changes in Soviet intentions, but they do represent a significant increase in the threat posed to the Atlantic SLOCs and should be planned for in the Maritime Strategy.

#### **D. THEATER NUCLEAR WEAPONS**

Theater nuclear weapons and NATO's Flexible Response Strategy have been very controversial subjects. Nevertheless, nuclear weapons have been instrumental in maintaining peace in Europe since World War II, and they will continue to play a key role in European security for the foreseeable future. Retired Admiral Thomas Moorer, a former chairman of the Joint Chiefs of Staff, and currently a senior advisor at the Center for Strategic and International Studies supports the former position stating: "In my

view, it is the nuclear weapons in Europe that have maintained the peace there for the longest period in modern history." (Gertz, 1989, p. 5)

The INF Treaty requires the total elimination, within three years, of all U.S. and Soviet ground launched ballistic and cruise missiles with a range between 500 and 5,500 kilometers. (U.S. Department of State, 1988, p. 7) Critics of the INF Treaty have charged that by removing the only land-based U.S. missiles capable of reaching the Soviet Union from Europe, while the Soviets continue to threaten Western Europe with SS-25 and other ICBMs, that the U.S. has consented to a second-class form of security for Western Europe. Defense Secretary Cheney disagrees, stating that the INF Treaty simply brought Europe back to the status quo before the deployment of SS-20s and Pershing II and cruise missiles (Gertz, 1989, p. 5).

For years, NATO's strategy to deter the Warsaw Pact has been to maintain smaller but modern military forces backed up by the threat of nuclear weapons if conventional forces fail to stop the Warsaw Pact advance. NATO's principal ground launched nuclear weapon system is the Lance missile. There are 88 Lance launchers in Europe, each with an estimated 20 missiles, and a range of 70 miles (Trainor, 1989, p. A10). The Lance missile is a product of 1960s technology, and is slow to load and reload. It is also not very accurate by today's standards. The Lance missile has a circular error probable (CEP) of 150-400 meters<sup>21</sup> (International Institute for Strategic Studies, 1989, p. 219). The poor accuracy of the missile makes its use against small targets such as bridges or command centers questionable. Furthermore, because of the short range of the Lance missile, it must be kept very close to the front. Some feel that this is destabilizing

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<sup>21</sup>CEP is the radius of a circle around a target within which there is a 50 percent probability that a weapon aimed at that target will fall.

because NATO commanders could be faced with a "use them or lose them" situation early in a conventional conflict. (Trainor, 1989, p. A10)

The members of NATO have acknowledged the shortcomings of the Lance missile system. The United States has been developing a replacement system that would have four times greater range and better accuracy (Trainor, 1989, p. A10). The U.S. is looking at a surface-to-surface missile which would be fired from the multiple rocket launcher system (MLRS) vehicle. However, the new missile would have a different configuration from the conventional army tactical missile system (ATACMS), so that it can easily be recognized for verification purposes (International Institute for Strategic Studies, 1989, p. 12).

Despite the shortcomings of the Lance missile system, some NATO members have been extremely reluctant to modernize it, because of strong public objections in their nations. In March 1989, a NATO military exercise was interrupted when German and Turkish participants objected to an American proposal to hypothetically use theater nuclear weapons on German and Turkish soil (Trainor, 1989, p. A10). It is understandable why West Germans oppose short-range nuclear weapons that would reportedly be used only if conventional defenses of their country were failing. In such a case, nuclear weapons would be used against the enemy on German soil.

Many people, including Paul Nitze, former President Reagan's top arms control advisor, feel NATO has much to gain by accepting Soviet offers to limit or eliminate SNFs in Europe. Paul Nitze feels that negotiations to reduce SNFs would be in the military interest of the West because they would provide an opportunity to eliminate a large Soviet advantage (Gordon, 1989a, p. A1). The Soviet Union has 630 Frog-7; 300 SS-21 Scarab; and 630 SS-1 Scud missile launchers, the counterparts to the Lance missile

system (International Institute for Strategic Studies, 1989, p. 221). Of these 1560 missile launchers, 500 are believed to be in Central Europe (Gordon, 1989a, p. A1). Non-Soviet Warsaw Pact nations have an additional 385 missile launchers (International Institute for Strategic Studies, 1989, p. 224). Proponents of negotiations to reduce SNFs argue that such talks are an opportunity to eliminate a large Soviet advantage.

In April 1989, West Germany insisted that talks be opened to reduce SNFs. The Bush administration initially argued that SNF negotiations would create strong public pressure to totally ban all SNFs. Such a ban would further Moscow's goal of removing all nuclear weapons from Europe. Furthermore, NATO considers SNFs to be essential to its defense strategy against larger Warsaw Pact conventional forces. (Gordon, 1989b, p. A1)

On 19 May 1989, officials announced that the U.S. would be willing to hold negotiations with the Soviet Union to reduce short-range nuclear missiles in Europe, provided stiff conditions are met (Gordon, 1989b, p. A1). The conditions are (Gordon, 1989c, p. A11):

- American and Soviet negotiations to reduce short-range nuclear missiles cannot begin until a separate East-West accord is reached to cut conventional arms in Europe and actual reductions in conventional arms have begun.
- If the negotiations to reduce short-range missiles succeed, the reductions in such weapons will not be carried out until the conventional arms agreement is fully implemented.
- The West would rule out the elimination of the shorter-range missiles.

At the NATO summit on 29 and 30 May 1989 the decision was reached that: "The allies concerned recognize the value of the continued funding by the United States of research and development of a follow-on for the existing *Lance* short range missile," but "The question concerning the introduction and deployment of a follow-on system for the

*Lance* will be dealt with in 1992 in the light of overall security developments." (International Institute for Strategic Studies, 1989, p. 12)

Events in Eastern Europe have overtaken the SNF debate. Since the NATO summit every non-Soviet Warsaw Pact nation has a new head of state. European opposition to the modernization of *Lance* missiles is sure to grow. "The idea of buying a new nuclear weapon designed to land on East Germans now seems politically unthinkable." (Budiansky, 1989, p. 53) Given the sweeping changes in both Eastern Europe and the Soviet Union, the prospects for SNFs modernization is effectively nil.

Theater nuclear weapons have played a significant role in keeping the peace in Europe since World War II. Despite great reforms in the communist world, theater nuclear weapons will continue to play a key role in deterring war in Europe. Even as the likelihood of an East-West conflict diminishes, other sources of conflict may emerge such as disputes over controversial territory that date back to World War I. The presence of theater nuclear weapons in Europe make armed aggression an untenable means of solving such disputes.

The U.S. Navy is able to provide a credible European theater nuclear deterrent for the 1990s that is much more politically acceptable than the weapons now being used. The nuclear version of the Tomahawk land attack cruise missile (TLAM-N) has a range of 2,500 kilometers or 1,350 nautical miles, a CEP of 280 meters, and carries a 200 kiloton warhead (International Institute for Strategic Studies, 1989, p. 217). In Adelphi Paper 226, Rose Gottemoeller attributes the TLAM-N with a range of 2,600 kilometers or 1,404 nautical miles and a CEP of 250 feet (Gottemoeller, 1987, p. 8). She also recognizes the military utility of the missile:

The missile in this context [an augment to the U.S. Navy's nuclear reserve] would be effective against military or industrial targets in the USSR, Eastern Europe and



elsewhere. Its use might extend through a prolonged nuclear war. In theory, this consistent and continuing availability would make the nuclear land-attack SLCM a valuable tool in war termination, an attribute often cited as necessary in a reserve force. (Gottemoeller, 1987, p. 14)

The TLAM-N offers many advantages over short-range ground launched nuclear missiles: (1) It does not have to be based on foreign soil;<sup>22</sup> (2) The missile has sufficient range, accuracy, and payload to strike tactical targets within the Soviet Union; (3) It does not have to be used against targets in Central or Eastern Europe; (4) The TLAM-N is mobile and can be deployed in the Mediterranean Sea, Norwegian Sea, North Sea, Barents Sea or in the Western Pacific to cover a wide range of targets; and finally, (5) TLAM-N can be carried by a wide range of naval platforms, including surface ships and attack submarines.

The Tomahawk cruise missile does have drawbacks as well. SLCMs are a point of contention in the START negotiations. The Soviet Union recognizes the threat posed by these weapons and will put considerable pressure on the U.S. to reach an agreement to limit them. Also, some Nordic nations are sensitive to the fact that many SLCMs launched at the Soviet Union could violate their sovereignty by flying over their countries. The Soviet Union has focused attention on the estimated routes of U.S. cruise missiles over Sweden and Finland and on the duties of Finland contained in the Treaty of Friendship, Cooperation and Mutual Assistance. Sweden has also pledged to shoot down every missile entering their airspace. (Tunander, 1989, p. 17) TLAM-N SLCMs could also cause the Soviet Union to further build up its naval forces so that they could establish "sea control" zones around the periphery of the Soviet Union. The presence of TLAM-N cruise missiles on U.S. SSNs could also spur a tremendous Soviet ASW

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<sup>22</sup>This could be argued to be a disadvantage. Not having a visible presence on the continent could be perceived as lessening U.S. nuclear guarantees to Western Europe.

research and development effort to counter the threat. Although unlikely, such an effort might yield a major breakthrough in ASW technology that could affect the security of U.S. SSBNs. Strategy is paradoxical in nature. Luttwak writes:

Strategy violates linear logic by inducing the coming together and even the reversal of opposites, and it therefore tends to reward paradoxical conduct while confounding straightforwardly logical action, by yielding results ironical if not lethally self-damaging. (Luttwak, 1987, p. 203)

The U.S. should be careful in how it publicly portrays nuclear SLCMs. The weapons are very controversial and it is possible to elicit an undesired response from the Soviet Union.

The Navy will probably become responsible for a greater share of the theater nuclear deterrence role in Europe. The Maritime Strategy should be changed to reflect this role. Providing theater nuclear deterrence in Europe will not require any new naval hardware, but it will dictate that strategy and plans be updated to reflect this new mission.

#### **E. FISCAL RESTRAINTS AND THE POLITICAL ATMOSPHERE**

There are strong fiscal pressures in both the Soviet Union and the U.S. to reduce defense spending. For the U.S. Navy, these pressures will translate into fewer ships and aircraft, while the Soviet Navy will shrink in size while improving in quality. There is also considerable political pressure in the U.S. to reduce the size of its military forces in response to perceived decreases in the immense threat of the Soviet Union.

The Soviet economy is in shambles. The leadership in the Kremlin understands that economic strength is a major element of national power, and are desperately trying to revive the Soviet socialist economic system. President Gorbachev's reforms have

received rave reviews abroad, but have done little to help the situation inside the Soviet Union. Indications of the condition of the Soviet economy are appalling.

Most Western estimates believe Soviet defense spending to be 15-17 percent of their GNP (U.S. Department of Defense, 1989, p. 32). Clearly, the Soviet Union recognizes that this level of spending is excessive and that it must shift resources from the defense sector to the civilian sector. CFE and START agreements would certainly help the Soviets achieve this goal, while forcing the U.S. to reduce its military forces as well. However, the benefit of shifting defense resources to the private sector may not be as great as most expect.

Noted economist Charles Wolf has shown that Soviet military cutbacks will produce surprisingly small immediate and short-term effects. Wolf postulates that if the Soviet Union cut 20 percent of its aggregate defense resource allocations over a three to four year period, it would amount to only a 8.5 percent increase in benefits for Soviet consumers. He bases his prediction on the fact that a 20 percent reduction in defense spending represents five percent of the Soviet GNP. Furthermore, because Soviet consumption is about 60 percent of GNP, a 20 percent reduction in "guns" translates into a 8.5 percent increase in "butter." Wolf also notes that any population growth or transfer of savings to investment in production or to research and development would further reduce the benefits realized by consumers. (Wolf, 1989, p. A20)

In order to reduce costs, the Soviet Navy will certainly decommission most of its old and obsolete platforms.

The Soviet military, cognizant of the nature of future combat, acknowledges that larger quantities of outdated equipment do not compensate for high-quality weaponry, and recognizes the economic as well as the military necessity for a trade-off. (U.S. Department of Defense, 1989, p. 41)

However, Soviet military construction programs will continue, albeit at reduced rates. This will have a net effect of producing a smaller Soviet Navy with higher quality equipment. This will have a significant impact on the Soviet Navy's ability to threaten the Atlantic SLOCs. The latest generation of Soviet attack submarines are much more capable than their predecessors. As the Soviet Union scraps its obsolete platforms, it will be able to concentrate on the newer ships. The number of Akula and Sierra attack submarines will steadily increase in the 1990s. These SSNs are a very credible threat to the Atlantic SLOCs. Not only will NATO have to block the GIN gap, but also entrances to the Atlantic from the Arctic Ocean west of Greenland. The task of protecting the SLOCs will likely become much more difficult in the 1990s.

The United States is not without its own economic problems. The U.S. Federal Government has continuously spent more money than it has collected since 1969. The following table summarizes recent U.S. fiscal operations. (U.S. Department of the Treasury, 1989, pp. 13, 18, and 27)

**TABLE III**

(IN MILLIONS OF DOLLARS)

FISCAL YEAR	FEDERAL DEFICIT	FEDERAL DEBT	INTEREST ON DEBT
1985	212,266	1,827,470	178,945
1986	220,698	2,129,522	187,117
1987	148,005	2,354,286	195,390
1988	155,102	2,614,581	214,145
1989	151,988	2,881,112	240,863
1990 (Est.)	99,244	N/A	254,355

N/A = Not Available

It is obvious from the figures that deficit spending is getting the U.S. Government into serious trouble. The exorbitant debt being carried by the Federal Government is a real threat to the health of the U.S. economy and consequently, national security. In fiscal year 1989, 14 percent of federal outlays were spent to service the U.S. debt (Panetta, 1989, p.1). Recently, many people have been looking to cut defense spending to alleviate U.S. fiscal problems.

A recent Congressional study estimates that the Bush CFE proposal of May 1989 would only save the U.S. about two billion dollars a year in personnel and operating costs and about six billion dollars "over a period of years" in weapon procurement costs (Congressional Budget Office, 1989, p. 1). These savings were calculated assuming the U.S. would remove about 30,000 troops from Europe. In light of President Bush's new troop reduction proposal made on 31 January 1990, it can be postulated that the U.S. would remove an additional 50,000 troops from Europe. Making a rough extrapolation from the Congressional Budget Office figures, the U.S. could save 5.3 billion dollars a year in personnel and operating costs and about 16 billion dollars in weapon procurement over several years with a CFE agreement.

Savings from a CFE agreement would be offset by the cost of implementing and verifying the treaty. Although there is no precise basis for estimating the costs of verifying a CFE agreement, for purposes of illustration it can be assumed that verification costs for a CFE agreement would be comparable to those of the INF Treaty. It currently costs the U.S. approximately 150 million dollars a year to verify the INF Treaty. (Congressional Budget Office, 1989, p. 4) Prospective savings from a CFE accord would not come close to meeting the military spending cuts that some Congressmen are

predicting. Representative Norm Dicks, a senior member of the House Appropriations Subcommittee on Defense has stated concerning the fiscal year 1991 defense budget: "if the Pentagon comes out with a five percent real cut, about 15 billion dollars, they would have to consider that a victory." (Rasky, 1989, p. A9) House Armed Services Chairman Les Aspin has said that defense spending is in a "free fall." (Brookes, 1989, p. F1) Representative Barney Frank has said of the fiscal year 1991 defense budget: "We're going to cut the hell out of it." (Walcott, 1989, p. 22)

President Bush submitted his version of the fiscal year 1991 federal budget to Congress on 29 January 1990. In it he proposed to spend 295 billion dollars on defense, a 2.6 percent decline, taking inflation into account. Secretary of Defense Cheney has proposed eliminating two of the Army's 18 active divisions and three of the Army's reserve divisions in fiscal year 1991. It should be noted that if a CFE agreement is reached, forces removed from Europe would also have to be demobilized in addition to the reductions proposed Cheney. *U.S. Defense spending, adjusted for inflation, has been shrinking by an average of two percent a year since 1985, despite presidential requests for more money each year* (Engelberg, 1990, p. A6). Since fiscal year 1987 alone, real defense spending has dropped 12.6 percent (Weinberger, 1989, p. A19).

There will obviously be considerable debate in Congress concerning the level of future defense spending. However, it is safe to assume that defense allocations will decrease. Although, the Army will probably bear the greatest share of these cuts, the Navy will not be immune. In sum, the Navy will shrink in size in the 1990s. There will be fewer ships and aircraft with which to carry out the Maritime Strategy.

## F. SUMMARY

The changes that affect U.S. and European security in the 1990s have been discussed in detail in this section. Before going on, it is worthwhile to review how the changes and developments discussed above will affect the Maritime Strategy.

A CFE agreement will create a conventional balance of power in Europe. Although an East-West conflict would be highly unlikely under such conditions, if war did break out, it would be a war of attrition in which mobilization and reinforcement would play key roles. Therefore, in any East-West conflict commencing after a conventional arms control agreement, the Atlantic SLOCs would become very important. Furthermore, U.S. direct naval impact capabilities will be seen as more threatening to the Soviet Union because they could tip the conventional balance of power in favor of the West. Recent political changes in Eastern Europe build upon these same effects.

A START agreement would create a strategic nuclear balance at significantly lower numbers of weapons. Under such conditions, a counterforce coercion strategy by either side would be more provocative and risky than it is today because every SSBN would represent a greater portion of each country's total strategic nuclear arsenal. Furthermore, after START reductions, the Soviet Union would have to only use its most modern SSBNs that are quiet enough to operate in the same manner as Western SSBNs. The Soviet Union would no longer have to defend its older SSBNs in protected bastions. This frees Soviet attack submarines to go out and threaten the Atlantic SLOCs.

The political prospects for modernizing short-range nuclear missiles in Europe are grim. Because of the many advantages of SLCMs, they will become increasingly relied upon to fill NATO's theater nuclear deterrence mission. Finally, because of fiscal restraints, both the Soviet Navy and the U.S. Navy will shrink in size during the 1990s.

However, the Soviet Navy will increase in quality as obsolete platforms are decommissioned and as modern ship construction continues, although at reduced rates. The Soviet Navy has much more room for improvement than the U.S. Navy. Hence, the U.S. Navy will also increase in quality at a much slower pace than the Soviet Navy, and will simply have fewer ships and aircraft with which to carry out its missions. The latest generation of Soviet SSNs will be a greater threat to the Atlantic SLOCs through the GIN gap as well as through approaches west of Greenland, as they steadily increase in available numbers. The changes to the international security environment are significant. The Navy must rethink its Maritime Strategy to account for all the changes discussed above.



#### **IV. WARFIGHTING MISSIONS FOR THE U.S. NAVY IN THE 1990s**

##### **A. INTRODUCTION**

The warfighting component of the Maritime Strategy should contain a description of the goals or missions of the U.S. Navy in the event of war, and a broad plan or strategy to achieve those missions. In this chapter, a proposal for the warfighting missions of the U.S. Navy for the 1990s is presented. It is important for the Navy to establish its priorities in the Maritime Strategy, because in time of war, no nation has all the military resources it desires. Civilian and military leaders are forced to make tough decisions regarding the allocation of resources. Having established priorities within a strategy aids these decisions. In the following chapter, a strategy to achieve those priorities is presented. Together, these chapters represent one approach to rethinking the warfighting component of the Maritime Strategy for the 1990s.

The missions and strategy developed in this work are based on several assumptions. First, despite reforms, the Soviet Union is still the greatest threat to the national security of the U.S. and its allies. The Soviet Union still maintains extremely large military forces and is the only nation that can militarily challenge U.S. security interests on a global scale. Second, the European theater has been and continues to be given the highest priority in U.S. security calculations. Although the international security environment is becoming more multipolar, in this work it is assumed the U.S. would give Europe the highest priority in any global conflict. Consequently, the Maritime Strategy should include a plan for a conflict with the Soviet Union in Europe. Finally, it is assumed that if the U.S. Navy must remain prepared to fight its greatest threat, the Soviet

Union. Although many other contingencies are more likely than war with the Soviet Union, such as third world resource conflicts, fighting in Eastern Europe, or even the threat of Libya under Quaddafi with nuclear weapons, the U.S. Navy must remain prepared to fight the greatest threat to U.S. national security if necessary. To do otherwise could jeopardize U.S. national security.

## **B. WARFIGHTING MISSIONS**

In the event of war, the first priority of the U.S. should be to maintain a credible strategic nuclear deterrent. A credible strategic nuclear deterrent is a functioning strategic nuclear force in being that is reasonably secure from enemy attack. A viable strategic nuclear deterrent force is a key component of the U.S. national security strategy.

America's defense policy throughout the postwar period has been aimed at deterring aggression against the United States and its allies. Deterrence works by persuading potential adversaries that the costs of their aggression will exceed any probable gains. Deterrence is the basis of our military strategy against conventional as well as nuclear aggression. Because any conflict carries the risk of escalation, our goal is to dissuade aggression of any kind. (White House, 1988, p. 13)

To be consistent with the National Military Strategy, in time of war, the Navy must maintain a credible strategic nuclear deterrent. The Navy is responsible for the most survivable leg of the U.S. strategic nuclear triad. This fact is not likely to change in the foreseeable future. As long as any nation maintains a credible nuclear deterrent, it is impossible to win any direct conflict against it. The warfighting component of the Maritime Strategy should specifically identify this mission as the Navy's first priority.

The second mission of the U.S. Navy should be to provide for the security of the SLOCs. The most important SLOC is between the U.S. and Western Europe for the movement of U.S. supplies and reinforcements. The importance of the Atlantic SLOCs was demonstrated in both World Wars and has not diminished. However, because the

U.S. and its allies are dependent on foreign sources for oil and other key strategic materials there are many other important SLOCs throughout the world that must be defended. Mearsheimer writes:

The principal lesson to be derived from the historical record is *not* that an insular power with a large surface navy can use that force to threaten a continental power but, on the contrary, that a continental power armed with submarines is a very real threat to an insular power. It is the United States, not the Soviet Union, that must concern itself with falling victim to the other side's naval power. Thus, in the final analysis, the central question is not whether the United States can hurt the Soviets with its navy, but whether NATO can protect its SLOCs from Soviet submarines. Sea control is the key issue. (Mearsheimer, 1986, p. 35)

As stated earlier, if a CFE agreement is reached, mobilization and reinforcement of Europe will be even more critical than they are today. Soviet capabilities to interdict Western SLOCs will be more formidable in the 1990s. The ability of the U.S. Navy to protect the Atlantic SLOCs directly enhances conventional deterrence in Europe. The Maritime Strategy should recognize this mission and give it the highest priority next to strategic nuclear deterrence. Because of the changing nature of both the Soviet SSBN and SSN forces, it may no longer be appropriate for the Maritime Strategy to assume that an offensive sea control strategy will protect the SLOCs. As shown earlier, the latest generation of Soviet submarines are simply too quiet. The old offensive sea control strategy might not prevent the latest generation of Soviet SSNs and SSBNs from slipping past U.S. forward deployed forces. The Maritime Strategy should adopt a layered defense concept for the protection of the SLOCs in the 1990s, making it the Navy's second greatest priority.

The third warfighting mission for the Navy should be to provide theater nuclear deterrence in Europe. NATO's Flexible Response Strategy seeks to enhance deterrence by threatening the possible use of controlled nuclear escalation tactics in the event of a

conventional conflict. Controlled nuclear escalation is a very controversial concept, nevertheless, it is a key element in the Flexible Response Strategy.

Despite the good prospects for a conventional arms control treaty and the sweeping reforms in Eastern Europe and the Soviet Union, theater nuclear weapons will continue to play a viable role in European security. The presence of theater nuclear weapons in Europe simply eliminates the prospects for victory of any armed aggression by raising the costs of such an action to unacceptable levels. This concept works regardless if the source of conflict is the East-West struggle or latent territorial disputes that have been overshadowed since the end of World War II. Even if the East-West struggle truly desists, theater nuclear weapons will continue to be useful to deter aggression in Europe that might develop from other sources. Although such a situation may become reality in the near future, East-West tensions still exist, albeit at greatly reduced levels. The combination of implementing the INF Treaty and the probable fate of ground based SNFs in Europe will leave a theater nuclear deterrence void. This void is being filled by the U.S. Navy with nuclear armed SLCMs. The Maritime Strategy should recognize the Navy's emerging role in providing this theater nuclear deterrence.

If the U.S. Navy successfully accomplishes the three missions described above, then it will have fulfilled its major responsibilities within the national military strategy. Nevertheless, the final warfighting mission of the Navy should be to use all its remaining assets to support the war in the Central Front. This mission encompasses a wide range of possibilities, but in general will consist of the direct naval impact and horizontal escalation missions described earlier. In short, the Navy and Marine Corps should deploy

naval, amphibious, and land attack assets where they will do the greatest good in aiding the efforts on the "Central Front."<sup>23</sup>

It is difficult to identify specific targets. Support of the "Central Front" might embody launching an amphibious attack on one of the Soviet flanks or it may consist of attacking Soviet forces in Asia. Naval forces, due to their mobility and flexibility, provide commanders with a wide range of possibilities. The unified and specified commanders will have to make decisions on how to best employ naval assets to support the "Central Front" based on the particular circumstances with which they are confronted.

The warfighting missions for the U.S. Navy in the 1990s should be in order of priority: (1) strategic nuclear deterrence, (2) protection of the SLOCs, (3) theater nuclear deterrence, and (4) support of the "Central Front." The first three missions are essential to the national warfighting military strategy. Strategies to accomplish these missions are presented in the next chapter.

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<sup>23</sup>The term "Central Front" may be outdated with the prospects of a unified Germany and the withdrawal of Soviet troops from Eastern Europe. In the context of this work, the term "Central Front" refers to the forward most line at which U.S. ground forces are actively engaging the ground forces of an adversary.

## **V. A MARITIME STRATEGY FOR THE 1990s**

### **A. STRATEGIC NUCLEAR DETERRENCE**

The Navy's first priority in time of war should be to maintain a credible strategic nuclear deterrent. The Navy has been fulfilling this mission for years. Nevertheless, advancing technology and probable START limitations should be recognized and taken into account for long range planning. In short, to insure a credible strategic nuclear deterrent in time of war, the Navy should continue its current SSBN program while planning for future contingencies. The current U.S. SSBN program consists of a force structure that is moving towards consisting entirely of Trident class SSBNs as well as the current method of operating U.S. SSBNs. Current operations have two crews assigned to each SSBN switching on and off the submarine approximately every three months to maintain each SSBN at sea for the maximum amount of time.

American sea-based strategic nuclear operations to date have been extremely successful. U.S. SSBN's patrol in open ocean areas where they are extremely difficult to locate. Furthermore, the increased range of the Trident SLBM has extended the size of possible patrol areas. Assuming the Trident C-4 missile has a range of 7,400 kilometers or approximately 4,000 nautical miles (International Institute for Strategic Studies, 1989, p. 216), it is readily apparent that U.S. SSBNs can operate in vast areas of the world's oceans, while still within range of their targets. The long range of the Trident missile system, combined with the excellent sound silencing of U.S. SSBNs, must be extremely frustrating for Soviet military planners trying to plan attacks on U.S. SSBNs in the event of war.

Today, advancements in missile technology and navigation systems allow sea launched ballistic missiles (SLBMs) to assume some of the targets normally assigned to ground launched ballistic missiles (GLBMs). Generally, hardened targets have been assigned to GLBMs because SLBMs did not possess the accuracy to destroy such targets. However, the Trident D-5 SLBM represents a significant advancement in SLBM technology, giving the U.S. increased flexibility in how it assigns strategic targets. A Congressional report reviewing the status of the Trident II (D-5) program states:

The accuracy needed to attack targets hardened against the effects of nuclear detonation is a Trident II requirement, and was clearly beyond the capability of available state-of-the-art technology present in Trident I [C-4] technology. (U.S. Congress, 1988, p. 3)

The Trident submarine represents a significant advancement over previous SSBNs. The nuclear propulsion technology and sound silencing measures incorporated in its design make it the most advanced submarine in the world. However, as shown earlier, under a START agreement each Trident submarine represents a significant portion of the total U.S. ballistic missile warhead arsenal. Under the conditions of a START agreement, U.S. sea-based strategic nuclear forces would be inherently more secure if they were spread out on a greater number of platforms, each carrying fewer weapons. The thought of each Trident submarine carrying almost four percent of the total U.S. ballistic missile warhead arsenal is worrisome.

One solution to this problem would be to carry less than a full load of missiles in a greater number of Trident submarines. For example, instead of building 18 Trident submarines, with 24 missiles each, the U.S. could build 24 Trident submarines and alter six missile tubes on every boat, so that each submarine only carried 18 missiles. This would spread the U.S. sea-based nuclear arsenal on a greater number of platforms, increasing its security. However, this plan would be very expensive and it raises some

very difficult verification issues, it is unlikely the Soviet Union would agree to it. Another solution would be for the U.S. to stop construction of Trident submarines and design a new smaller class of SSBN. This proposal has two difficulties associated with it. First, it would be prohibitively expensive and second, it would be difficult to incorporate the Trident's sound silencing and nuclear propulsion advances into a smaller submarine. Given the outstanding performance of the Trident submarine, the U.S. should accept the drawbacks associated with the large number of missiles carried on them under the conditions of a START agreement. The excellent performance of the Trident program more than compensates for any drawbacks under a START treaty.

To ensure continued success in strategic nuclear deterrence, the Navy must guard against a breakthrough in ASW technology. Currently, U.S. SSBNs are very secure when operating independently in open ocean. However, if a major discovery is made in ASW technology making the oceans "transparent," the sea based portion of the U.S. nuclear triad could be at risk. In such an event, the U.S. would have to develop a counter to the new technology or dedicate large numbers of naval combatants to the task of protecting SSBNs if it did not develop a counter to the new technology. To guard against such contingencies the U.S. must keep on the forefront of emerging ASW technologies.

Despite great efforts by many countries, including the U.S., no avenue of research currently appears to hold promise for an ASW breakthrough in the foreseeable future. Because no new techniques to detect and locate submarines are on the horizon, the U.S. has concentrated on improving its acoustic ASW. However, improvements in acoustic ASW will not produce any significant threats to the Trident SSBN. It is simply too quiet. No new technology is likely to threaten the security of the U.S. SSBN program



in the foreseeable future. The director of the SSBN Security Program, Dr. Edward Harper, has testified before Congress that the possible area for future concern in SSBN security lies in satellites. Concerning emerging satellite technology, Dr. Harper said that: "there is no imminent breakthrough on the horizon" and that "it is almost certain...that if such a breakthrough were made, that sensor would be counterable by patrolling deeper and slower." (U.S. Congress, 1985, p. 3854) The director of the Navy's Strategic Submarine Division, Rear Admiral (Lower Half) Theodore Lewin, holds a similar view regarding the possibility of a Soviet breakthrough in nonacoustic satellite ASW. He has testified before Congress that:

There is no indication that the Soviets are doing more than basic research, as we are, in the satellite ASW system....There is no breakthrough that we see in the foreseeable future to affect the ASW survivability of our submarines." (Lewin, 1986, p. 33)

In short, to provide strategic nuclear deterrence in time of war, the Navy simply should continue its current SSBN program. The Trident submarine and missile are both excellent systems that will serve the U.S. well into the 21st century. At the same time, the U.S. should guard against an ASW breakthrough. The Maritime Strategy should specify strategic nuclear deterrence as its greatest priority and should outline in broad terms how it will be accomplished.

## **B. PROTECTION OF THE SEA LANES OF COMMUNICATION**

The Maritime Strategy currently plans to provide for the protection of the Atlantic SLOCs in time of war mainly by means of offensive sea control. Furthermore, the U.S. believes SLOC interdiction would be assigned a low priority by the Soviet Union in the early phase of a war (Department of Defense, 1989, p. 75). As presented earlier, because of the probable conditions formed by START and CFE agreements, political changes in

Eastern Europe, and because of qualitative improvements in its submarines, the Soviet Union will have many more compelling reasons to attack NATO SLOCs in the 1990s in the event of war.

Offensive sea control will be less effective in protecting the SLOCs under such conditions. New generation Soviet SSNs could slip past Allied forward deployed forces through various routes that provide natural cover. The Soviet Union might attempt to slip attack submarines into the Atlantic as follows. The first leg of the journey for Soviet submarines would be to transit north from their home ports in the Northern Fleet to under the Arctic ice cap. In winter this would be a short trip and even in the summer months other Soviet naval assets could assist this movement. For example, a transit route could be established in the deep waters east of Novaya Zemlya. Soviet mines and surface ASW assets could guard the approaches to these waters to the north and south of the island. It would not be difficult to essentially establish a safe transit route from the White Sea to the Arctic east of Novaya Zemlya.

Once under the ice, Soviet submarines would be difficult to locate in the harsh acoustic environment of the Arctic. From there they could choose from a number of possible routes into the Atlantic. Some of the newer attack boats might feel they are quiet enough to simply attempt to run the GIN gap. Others might hug the Eastern Coast of Greenland, attempting to take advantage of the complex sound propagation conditions that exist in those waters. Tom Stefanick writes:

On the western side of the basin [the Norwegian-Greenland basin] is the cold East Greenland current, which flows from the Arctic between Greenland and Spitzbergen. Besides carrying ice floes and icebergs from the north, this cold current keeps the western edge of the Greenland Sea covered with consolidated ice throughout the year. The ice-covered portion of the Greenland Sea is more like the central Arctic [in terms of acoustic detection] than it is like the northern Barents Sea, owing to the Greenland Sea's depth. (Stefanick, 1987, p. 350)

Still others might attempt to enter the Atlantic through one of the many routes available through the Canadian Archipelago. Submarines could transit the Nares Channel into the Kane Basin, through Smith Sound, Baffin Bay, and the Davis Strait into the Atlantic. An alternative would be to enter the "Northwest Passage" from west of the Queen Elizabeth Islands and cross into Baffin Bay through the Canadian Archipelago. In the security environment of the 1990s, protecting the Atlantic SLOCs will consist of more than simply blocking the GIN gap.

The best method for protecting the SLOCs will be to use a layered defense. Offensive sea control will not prevent Soviet SSNs from attempting to slip into the Atlantic in the projected security environment of the 1990s, although it may make it more difficult for them. Furthermore, as shown above, simply forming a barrier across the GIN gap will not be sufficient to stop the Soviet anti-SLOC campaign. Instead the Navy should recognize the growing Soviet threat to the SLOCs, and plan to meet it with a layered defense.

The first layer should consist of approximately 11 U.S. SSNs operating in Soviet home waters attacking all Soviet naval assets with priority on Soviet SSNs.<sup>24</sup> This forward deployed contingent of U.S. naval forces would be very similar to an offensive

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<sup>24</sup>This strategy is developed based on the assumption that the U.S. will maintain 53 SSNs (the current number) assigned to the East coast in the 1990s. Source: The Military Balance 1989-1990. It also assumes that six of these boats will be unavailable because of overhaul. A proposal for the number of submarines that should be assigned to each layer of this defense is presented to give the reader a better understanding of the layered defense concept. These numbers are simply a rough approximation and should not be interpreted as the product of a detailed analysis.

sea control strategy, but at a much smaller scale.<sup>25</sup> Some of these boats might patrol as far north as the marginal ice zone, others might patrol directly outside Soviet ports.

By maintaining a constant forward presence, Soviet ships, especially submarines, would be subject to attack as soon as they leave their home ports as well as during other parts of their journey. This would force Soviet SSNs to proceed at slow speeds to remain quiet, even in home waters, lengthening their turnaround time between patrols. Given that Soviet submarines of the Northern Fleet have no peacetime forward resupply locations and must return to their home ports to stores and torpedoes, the presence of forward deployed U.S. submarines will at least greatly lengthen Soviet SSN turnaround times. It will also force Soviet SSNs to maintain a minimum torpedo load for their return trip, in case they meet a U.S. submarine, thus further eroding their efficiency.

The second layer of defense would consist of U.S. and allied attack submarines forming barriers between the North Cape area of Norway, Greenland, and the Canadian Labrador coast. Approximately 20 submarines would be assigned to these barriers. The barriers would attempt to interdict all Soviet SSNs attempting to slip out to the Atlantic. These forces would be aided by stationary underwater monitoring equipment, such as SOSUS arrays. Since torpedoes are usually the limiting supply on modern nuclear powered submarines, attacks on Soviet submarines could be coordinated with ground-based maritime patrol aircraft. Once NATO submarines locate a Soviet target, they could clear the area, passing the target to maritime aircraft for prosecution to conserve torpedoes.

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<sup>25</sup>Although it is not known how many SSNs the U.S. currently plans to forward deploy in Soviet home waters in the event of war, given the area of ocean to be patrolled and the aggressive rhetoric of the Maritime Strategy, it is assumed to be at least 75 percent of the available SSNs on the East Coast or 35 submarines.

A third layer would consist of a another barrier located directly behind the submarine barrier, manned by NATO surface ASW and maritime patrol assets. This layer would receive air cover from land based aircraft based in the United Kingdom, Iceland, and Norway. These ASW assets would attack any Soviet submarines that make it through the submarine barrier. Surface and maritime patrol assets will be used to form the second barrier in order to keep them as far from Soviet land based aviation as possible. Nevertheless, NATO military planners must recognize their responsibility to protect these forces as well as allied convoys from Soviet aviation.

The final layer would consist of approximately eight submarines and assorted surface ASW ships that would escort convoys across the Atlantic. These forces would be the final layer of defense against Soviet attack submarines. Convoys protected by ASW assets are still the best method for transporting men and equipment to Europe. William Kaufmann writes:

*The practice of organizing merchant ships into convoys and protecting them with warships has existed for centuries. Its importance has increased with the advent of long-range attack submarines and bombers. (Kaufmann, 1987, p. 76)*

This layered defense uses a total of 39 SSNs, allowing for eight submarines to be in transit and refit, and for allied SSN assistance.

As part of the layered defense, American naval forces from the Pacific fleet would be responsible for other SLOCs not in the Atlantic, such as the Persian Gulf. European NATO naval forces could be best employed by giving them responsibility for the protection of areas close to European ports. NATO naval forces could prevent mining and concentrations of Soviet submarines outside European SLOC termini. Canadian naval forces could prevent Soviet submarines from entering the Atlantic from the Arctic through

Baffin Bay. One exception would be that British or French SSNs could be used to augment U.S. SSNs in this strategy.

The task of preventing modern Soviet SSNs from interdicting the Atlantic SLOCs will become more difficult as the Soviet submarine fleet continues to close the technology gap with the West. The best method of defending against such a threat is with a layered defense where Soviet submarines will be threatened by the West at all points of their mission. Simply trying to stop Soviet SSNs in their home waters by means of offensive sea control will not be sufficient to protect the SLOCs in the 1990s. A layered defense strategy, as presented above, should be incorporated into the warfighting component of the Maritime Strategy.

### C. THEATER NUCLEAR DETERRENCE

The third aspect of a Maritime Strategy for the 1990s is for the Navy to maintain a theater nuclear deterrence in Europe. Militarily, this is a relatively simple task because of the versatility of the Tomahawk nuclear land attack missile (TLAM-N). It has a range 2,500 kilometers or 1,350 nautical miles, a CEP of 280 meters, and a 200 kiloton nuclear warhead (International Institute for Strategic Studies, 1989, p. 216). The missile can be launched from surface or submarine platforms. The small size, combined with its range, accuracy, and payload almost make the TLAM-N an extremely effective theater nuclear deterrent. The weapon is so small, Soviet military planners could not be sure that almost any U.S. naval platform might be carrying it.

The latest generation of Los Angeles class submarines is fitted with 12 vertical launch missile tubes for Tomahawk missiles in addition to standard torpedo rooms. These submarines could be deployed in Soviet home waters with a full load of torpedoes.

as part of a layered defense, while simultaneously providing theater nuclear deterrence in Europe with its 12 Tomahawk missiles. The advanced technology of the Tomahawk land attack missile makes many other alternative scenarios to provide theater nuclear deterrence for Europe possible.

One drawback of the TLAM-N is that it causes a conflict between the operational demands of "tactical" torpedo operations and "strategic" SLCM operations. However, the Navy has decided that the TLAM-N will not be committed to the SIOP or the NATO general strike plan. Admiral Kelso, Director of the Strategic Submarine Division of the Office of the Chief of Naval Operations testified in 1981:

The sea launched nuclear land attack cruise missile (TLAM/N) is not planned for commitment to the SIOP or the NATO general strike plan. TLAM/N will be a theater nuclear weapon deployed on general purpose forces. It will be available for selective release in non-SIOP options and in a post-SIOP environment it will contribute to the strategic reserve force. (U.S. Congress, 1981, p. 200)

Furthermore, the Navy has decided that responsibility for the safety of TLAM-N missiles will be assigned to theater nuclear commanders. Admiral William A. Williams, Director of the Strategic and Theater Nuclear Warfare Division of the Office of the Chief of Naval Operations testified:

[The TLAM-N is] to be a member of the theater commander's theater nuclear forces to be employed at his discretion with other theater weapons....We cannot commit the general purpose forces, which will carry those weapons to a rigid SIOP role. So they tend to be a nuclear weapon carrier which are on call at the discretion of the theater commander who has operational control of them. He will make the tradeoff between whether they are best employed in launching the Tomahawk or doing a general purpose mission such as supporting the carrier battle group. (U.S. Congress, 1981, p. 189)

Admiral Kelso went on to say:

The sea launched nuclear land attack cruise missile (TLAM-N) will be deployed on general purpose forces. This deployment will be on a not-to-interfere basis with the primary mission of these platforms....Operations of general purpose naval forces in proximity of the Soviet coast is governed by operational requirements of the fleet

commander and is not a function of whether they are carrying TLAM-N missiles.  
(U.S. Congress, 1981, p. 200)

The main threat to this mission comes from the arms control arena. The Soviet Union recognizes the great threat posed by SLCMs and seeks to limit these weapons with an arms control agreement. As Soviet technology advances, the U.S. will probably find itself threatened by these same weapons in the future. For this reason, if an arms control agreement limiting or eliminating, nuclear SLCMs could be verified, it could be in the long term security interest of the U.S. to enter into it. However, it is never in the U.S. national interest to enter into arms control agreements that cannot be reasonably verified. Currently, sea launched cruise missile limits simply cannot be verified without unreasonably intrusive verification schemes that would jeopardize the overall security of the United States. Therefore, the U.S. should not enter into any arms control agreement that limits SLCMs.

The Maritime Strategy should recognize and outline a plan for the U.S. Navy to provide theater nuclear deterrence in Europe. Essentially, this mission is already being performed by the presence of the TLAM-N missile in the U.S. inventory. The Navy should vehemently oppose any arms control proposals that seek to limit SLCMs, until reasonable verification methods can be developed.

#### **D. SUPPORT OF THE CENTRAL FRONT**

The final aspect of the warfighting component of the Maritime Strategy should be to support the "Central Front." This mission could be accomplished in many ways. Basically, the Navy should use any assets, not being used to perform one of the other naval missions discussed above, in any method that best supports the Allies in the land



war. Whenever the U.S. is engaged in a ground war the Army should be the lead service. The Navy and Air Force should support the efforts of the Army.

The Army may desire the Navy and Marine Corps to establish a second front on one of the Soviet flanks in attempt to draw Soviet forces away from the Central Front. Or perhaps the Navy could best support the overall war effort by carrying out direct naval impact missions, such as carrier air strikes or cruise missile attacks against targets within the Soviet Union or on the Central Front. Naval aviation might be needed to counter Soviet aviation. Another scenario could be for the Navy to attack Soviet forces in Asia in an attempt to prevent Moscow from swinging forces out of Asia. The possibilities are endless. The best supportive missions for the Navy will have to be determined by military commanders based on the particular circumstances they face.

The Navy should do everything in its power to support the land battles. Naval forces are extremely mobile and can be used for a multitude of missions. The Maritime Strategy should recognize support of the land battle as the final warfighting mission of the Navy. In a European war context, this mission should be given the lowest priority of the warfighting missions, although for a non-global war scenario, the priority of this mission would be much greater.

## VI. CONCLUSION

The Maritime Strategy, especially its warfighting component, consists of offensive concepts designed to challenge Soviet forces throughout the world as far forward as possible. This is in keeping with the National Military Strategy of forward defense. However, sweeping reforms instituted by President Gorbachev have led to great changes in the international security environment. This thesis has reexamined the offensive concepts contained in the Maritime Strategy, and found that some of these concepts are no longer in the best interests of the U.S. The analysis contained in this work supports the following conclusions.

A CFE agreement will create a conventional balance of power in Europe, making an East-West conflict highly unlikely. However, if a war did break out after implementation of a conventional arms control agreement, it would be a war of attrition in which mobilization and reinforcement would play key roles. Recent political changes in Eastern Europe build upon these effects. In such a conflict, the security of the Atlantic SLOCs would continue to be extremely important to the Atlantic Alliance.

A START agreement would create a strategic nuclear balance at significantly lower numbers of weapons. Under such conditions, every SSBN would represent a much larger portion of its countries' total strategic nuclear arsenal, making a successful counterforce coercion strategy more destabilizing and dangerous. Furthermore, under the conditions of a START agreement, it would not be necessary for the Soviet Union to form protected bastions to guard their SSBNs because their entire fleet would consist of the modern Delta IV and Typhoon classes. These submarines are quiet enough to operate alone in

open ocean, similar to Western SSBNs. This development would free Soviet SSNs to attack the Atlantic SLOCs.

Because of sweeping reforms in the communist world, the political prospects for modernizing NATO ground-based short-range nuclear forces are virtually nil. Nevertheless, theater nuclear deterrence will continue to play a key role in European security. The U.S. Navy will become increasingly essential to fill NATO's theater nuclear deterrence needs with the Tomahawk cruise missile. The advanced technology contained in this weapon give it many advantages for fulfilling this mission.

Fiscal restraints will have significant impact on the military forces of both the U.S. and Soviet Union. The U.S. Navy will simply have fewer ships and aircraft with which to carry out its missions and less money for research and development in the 1990s. The Soviet Navy will also shrink in size. However, the Soviets will eliminate most of the old obsolete platforms that they have traditionally retained in service. These reductions will result in a very small loss of capability. At the same time, the Soviet Union will continue construction of modern ships, although at reduced rates. Most troubling to the U.S. will be the construction of improved Soviet SSNs, such as the Akula and Sierra classes. These platforms represent significant advancements over earlier attack submarines and are a significant threat to the Atlantic SLOCs and Western security.

Based on these developments the U.S. Navy should rethink its Maritime Strategy. Specifically, strategic nuclear deterrence should be identified as the Navy's greatest priority. It should be accomplished by continuing the current U.S. SSBN program while continuing research into nonacoustic means of submarine detection.

The next priority of the Maritime Strategy should be protection of the SLOCs. Because of arms control developments and advances in Soviet submarines, the Soviet

capability to interdict the Atlantic SLOCs will be much greater in the 1990s. Forward defense will not be sufficient to protect the SLOCs. The Navy should adapt a layered defense concept in the warfighting component of the Maritime Strategy to protect the SLOCs in the 1990s.

The INF Treaty and the dismal prospects for the modernization of SNFs will leave a theater nuclear deterrent void in Europe. The U.S. Navy should fill this void with the TLAM-N cruise missile. Furthermore, the Navy should continue to oppose any arms control process that seeks to limit SLCMs unless reasonable verification methods can be developed.

Finally, the Navy should do everything in its power to support the "Central Front." Naval forces are extremely mobile and flexible and can be used for a multitude of missions to support U.S. ground forces.

The Navy has been very successful with the Maritime Strategy. It is a well thought plan to guide the Navy in areas of priorities, tactics, procurement, and research and development. As with any strategy, the Maritime Strategy must be continuously developed to reflect changes in the world that impact upon it. This thesis has presented some thoughts on how to change the warfighting component of the Maritime Strategy in terms of European security for the great changes occurring in the international security environment as the U.S. enters the 1990s.

## LIST OF REFERENCES

- Apple, R. W., "President Says Moment Has Come to Fix Each Force at 225,000," *New York Times*, pp. A1 and A8, 1 February 1990.
- Auerbach, Stuart, "Prague Seeks Talks On Soviet Troops," *Washington Post*, p. 45, 15 December 1989.
- Brookes, Warren, "Defense Free Fall or New Vision?," *Washington Times*, p. F1, 14 December 1989.
- Brooks, Linton, "Naval Power and National Security," *International Security*, v. 11, pp. 58-88, Fall 1986.
- Budiansky, Stephen, "The Russians Aren't Coming," *U.S. News and World Report*, pp. 47-54, 27 November 1989.
- Bumpers, Dale, "The Trident Boondoggle," *New York Times*, p. 27, 31 October 1989.
- Congressional Budget Office, *Budgetary Effects of the President's Conventional Arms Proposal*, Government Printing Office, Washington, D.C., June 1989.
- Congressional Research Service, *The Implications for Strategic Arms Control of Nuclear Armed Sea Launched Cruise Missiles*, Government Printing Office, Washington, D.C., 10 December 1985.
- Coughlin, William, "Top U.S. Admiral Raps Soviet Plan to Banish Nuclear Cruise Missiles," *Boston Globe*, p. 13, 16 July 1989.
- Delaere, Martijn, "Will SLCMs Be Next in East-West Missile Cuts?," *Jane's Defence Weekly*, p. 158, 29 July 1989.
- Engelberg, Stephen, "In Search of Missions to Justify Outlays," *New York Times*, p.A6, 9 January 1990.
- Fialka, John, "Soviets Losing Control Over Allies in Arms Talks, U.S. Officials Say," *Wall Street Journal*, p. 12, 9 November 1989.
- Friedman, Thomas, "Baker Announces NATO Agreement on Aircraft Cuts," *New York Times*, p. A1, 13 July 1989.
- Friedman, Thomas, "Moscow Accepts U.S. Advantage of 30,000 Soldiers Across Europe," *New York Times*, p. A1, 14 February 1990.

- Gertz, Bill, "INF Treaty Marks Quiet 1st Birthday," *Washington Times*, p. 5, 3 July 1989.
- Gordon, Michael, "Soviets Said to Harden Stance on Missiles," *New York Times*, p. A3, 14 February 1988.
- Gordon, Michael, "Reagan Arms Advisor Says Bush Is Wrong on Short-Range Missiles," *New York Times*, p. A1, 3 May 1989.
- Gordon, Michael, "U.S. Offers to Talk on Battlefield Arms, But With Stiff Terms," *New York Times*, p. A1, 20 May 1989.
- Gordon, Michael, "New U.S. Arms Line Would Slow NATO Cuts," *New York Times*, p. A11, 21 May 1989.
- Gordon, Michael, "Bush Gives Allies Plan for Cutting G.I.'s and Aircraft," *New York Times*, p. A6, 29 May 1989.
- Gordon, Michael, "U.S. Shift on Arms Talks," *New York Times*, p. A8, 4 December 1989.
- Gordon, Michael, "Troop-Cut Plan Tries to Match Changes in Europe," *New York Times*, p. A8, 1 February 1990.
- Gottemoeller, Rose, *Land-attack Cruise Missiles*, Adelphi Paper 226, International Institute for Strategic Studies, Winter 1987/1988.
- International Institute for Strategic Studies, *The Military Balance 1989-1990*, Brassey's, 1989.
- Kaufmann, William, *A Thoroughly Efficient Navy*, The Brookings Institution, 1987.
- "Joint Statement by Reagan, Gorbachev," *Washington Post*, p. A34, 11 December 1987.
- Lewin, Theodore, Testimony before the Senate Appropriations Defense Committee, quoted in *Aerospace Daily*, p. 33, 7 April 1986.
- Lewis, J., and Slade, Andrew, "NATO Shift Eases Route to CFE," *Jane's Defence Weekly*, pp. 282-283, 17 February 1990.
- Luttwak, Edward, *Strategy: The Logic of War and Peace*, Belknap Press, 1987.
- Mearsheimer, John, "A Strategic Misstep: The Maritime Strategy and Deterrence in Europe," *International Security*, v. 11, pp. 3-57, Fall 1986.
- National Academy of Sciences, *Nuclear Arms Control: Background and Issues*, National Academy Press, 1985.

Naval Submarine League, "In The News," *The Submarine Review*, pp. 91-102, October 1986.

Oberdorfer, Don, and Kamen, Al, "Baker, in Moscow, Reports Progress in Arms Control Talks," *Washington Post*, pp. A1 and A19, 10 February 1990.

Panetta, Leon, "Taking on the Budget Deficit," *Congressman Leon Panetta Reports to the 16th District*, Summer 1989.

Posen, Barry, "Inadvertent Nuclear War?," *International Security*, v. 7, pp. 28-54, Fall 1982.

Rasky, Susan, "Lawmakers Criticize Cheney on Cuts," *New York Times*, p. A9, 27 November 1989.

Robinson, Clarence Jr., "Significant Advances in Soviet Submarines," *Washington Times*, p. 8, 21 March 1989.

Sivers, Anthony, *Conventional Arms Control: Considering New Directions*, Faraday Discussion Paper No. 13, Council for Arms Control, 1989.

Smith, R. Jeffrey, "Soviet Urges Bilateral Ban on Missiles," *Washington Post*, p. 1, 14 July 1989.

Stanglin, Douglas, "How Arms Control Got Stood on Its Head," *U.S. News and World Report*, pp. 36-37, 29 January 1990.

Stefanick, Tom, *Strategic Antisubmarine Warfare and Naval Strategy*, Lexington Books, 1987.

Strobel, Warren, "Go Home, Hungary Tells U.S., Soviets," *Washington Times*, p. 1, 3 November 1989.

Supreme Headquarters, Allied Powers Europe, Public Affairs Office, "U.S. Reinforcements," European Media Wire Service, 29 September 1989, cited in U.S. Department of Defense, *Early Bird*, p. 11, 2 October 1989.

Sutton, Boyd, Landry, John, Armstrong, Malcolm, Estes III, Howell, and Clark, Wesley, "Deep Attack Concepts and the Defence of Central Europe," *Survival*, pp. 50-18, March/April 1984.

Trainor, Bernard, "NATO's Disquiet: Strategy at Risk," *New York Times*, p. A10, 1 May 1989.

Trewhitt, Henry, "Bush's Bold Bid to Rescue NATO," *U.S. News and World Report*, pp. 26-29, 12 June 1989.

Tunander, Ola, *Cold Water Politics: The Maritime Strategy and Geopolitics of the Northern Front*, International Peace Research Institute, 1989.

U.S. Arms Control and Disarmament Agency, *Nuclear and Space Talks: U.S. and Soviet Proposals*, Government Printing Office, Washington, D.C., 1988.

U.S. Congress, Senate, Committee on Armed Services, Subcommittee on Strategic and Theater Nuclear Forces, *Strategic Force Modernization Programs: Hearing before the Subcommittee on Strategic and Theater Nuclear Forces*, 97th Congress, 1st Session, 26-30 October and 3, 4, 10, 12, 13 November 1981.

U.S. Congress, Senate, Committee on Armed Services, "Department of Defense Authorization for Appropriations for Fiscal Year 1986," 99th Congress, 1st session, Senate Hearing 99-58, Part 8.

U.S. Congress, House, Committee on Armed Services, Subcommittee on Research and Development and Subcommittee on Procurement and Military Nuclear Systems, *The Trident II (D-5) Strategic Weapons System: A Program Review*, 100th Congress, 2d session, Committee Print 19.

U.S. Department of Defense, *Soviet Military Power 1989*, Government Printing Office, Washington, D.C., 1989.

U.S. Department of State, *The INF Treaty: Negotiation and Ratification*, Current Policy No. 1039, Government Printing Office, Washington, D.C., January 1988.

U.S. Department of State, *CFE: Negotiation on Conventional Armed Forces in Europe*, Government Printing Office, Washington, D.C., 1989.

U.S. Department of the Treasury, *Treasury Bulletin*, Government Printing Office, Washington, D.C., December 1989.

Walcott, John, "Does America Need an Army?," *U.S. News and World Report*, pp. 22-29, 11 December 1989.

Watkins, James, *The Maritime Strategy*, U.S. Naval Institute, 1986.

Weinberger, Casper, "Too Soon to Slash Defense," *New York Times*, p. A19, 28 November 1989.

*Weekly Compilation of Presidential Documents*, 14 December 1987, cited in Yost, David, "Controlling Sea-launched Cruise Missiles: The Most Difficult Question," *Proceedings*, v. 115, pp. 60-70, September 1989.

White House, *National Security Strategy of the United States*, Government Printing Office, Washington, D.C., 1988.

Whitney, Craig, "East Bloc Optimistic On Arms," *New York Times*, p. A3, 9 July 1989.



Wilson, George, "Sea-Based Missiles Defy Limiting," *Washington Post*, p. 8, 9 November 1985.

Wolf, Charles Jr., "Soviet Military Cuts: Who Wins? Who Loses?," *Wall Street Journal*, p. A20, 21 February 1989.

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